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Chirurgical Observations

RELATIVE

TO THE EYE:

WITH AN

APPENDIX,

ON THE

INTRODUCTION OF THE MALE CATHETER;

AND THE

TREATMENT OF HÆMORRHOIDS.

BY

JAMES WARE, SURGEON, F.R.S. &c.

IN TWO VOLUMES.

VOL. II.

The Second Edition, with many Additions.

LONDON:

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PREFACE.

THE Author of the following pages having devoted a considerable part of his life, to the study of disorders of the eye, and having, at different times, taken the liberty to present to the Public the result of his observations on these subjects, presumes once more, to offer himself to their notice, and to lay before them in two volumes, a new edition of the following Tracts; all of which, he has revised with considerable care, and the first, in particular, he has altered in many parts, and has enlarged by the addition of a considerable number of cases.

The Tracts in the first volume are

a

A new

A new edition, being the fourth, of Remarks on the Ophthalmy, Psorophthalmy, and Purulent Eyes of new-born children; the first of which was published in the year 1780.

A new edition, being the third, of Observations on the Epiphora, or watery eye; the first of which was published in the year 1790;—to which are added, Additional Remarks on this disorder, which appeared first in 1795. And

A new edition of Remarks on the Fistula Lachrymalis, the first of which was published in 1798.

To these Tracts relative to the Eye, the author takes the liberty to add two, on the treatment of disorders, to which, in a former part of his practice, he devoted much attention, and which, he still thinks, contain hints that may be found
of

of use by his younger brethren in the profession :

The first is—on the Introduction of the Male Catheter in Suppressions of Urine; first published in 1788: And

The second—on the Treatment of Hæmorrhoids; published in the year 1798.

At the close of these Tracts, the author has added a case of Ophthalmy consequent on a Gutta Serena, which occurred after the former pages were put together, and which he flatters himself may afford a useful practical hint in future cases of a similar kind.

The Tracts in the second volume are
A translation of the Baron De Wenzel's valuable treatise on the Cataract.

An enlarged edition of the author's observations on this disorder.

The

The case of a young gentleman who recovered his sight when seven years of age, after having been deprived of it by Cataracts before he was a year old; with remarks on the mode of operating in such cases.

Observations on the Dissipation of the Cataract. And

An enlarged edition of the author's tract on the Gutta Serena.

London,
April 5, 1805.

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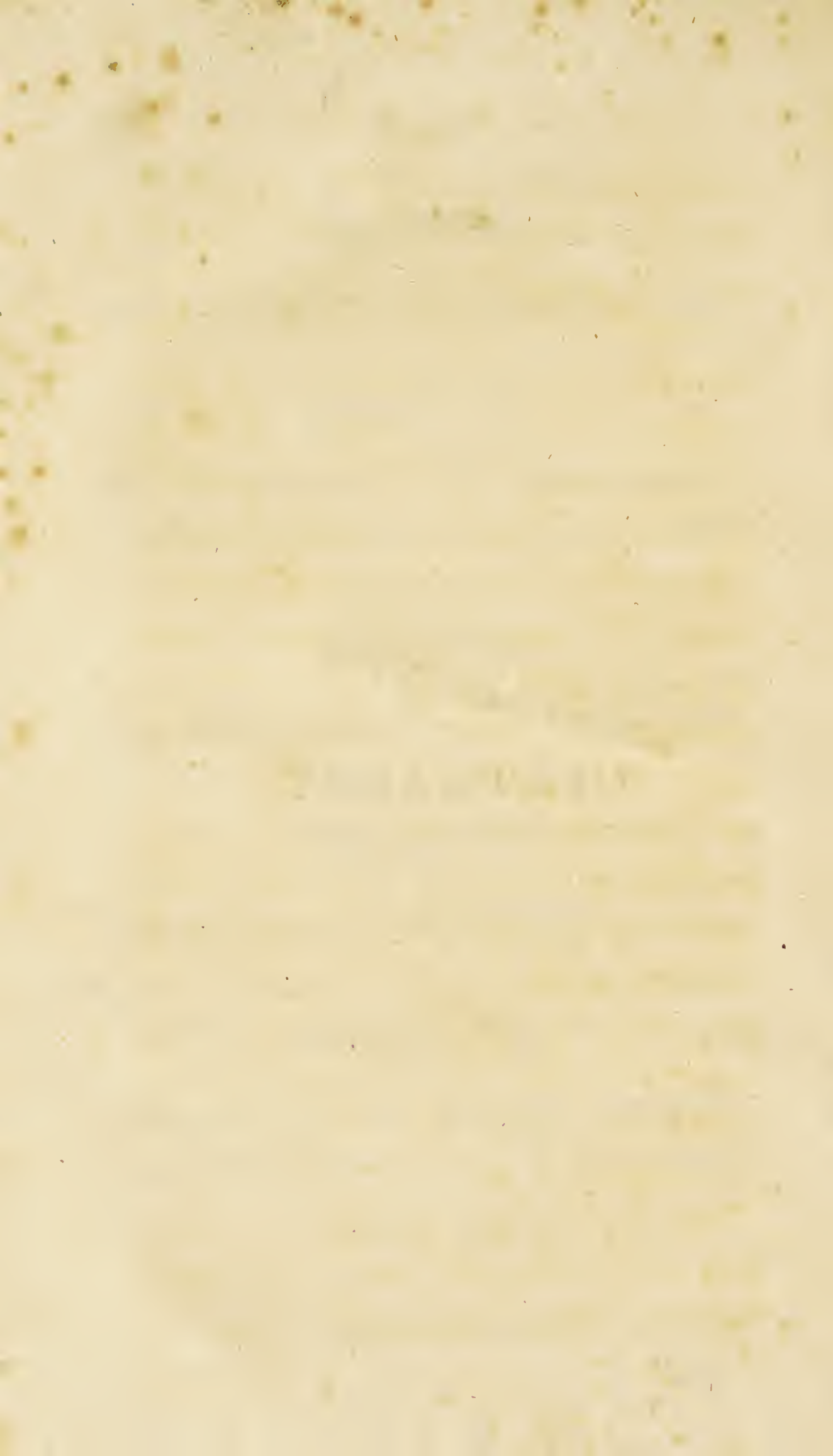
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ON THE
OPHTHALMY.



REMARKS, &c.

Introduction.

AMONG the various disorders to which the human body is liable, inflammation seems to be one of the most considerable; as is apparent from observing the immediate and direct influence which it has, in preventing or obstructing the necessary action of the parts affected by it: and in no case is this more evident, than in the Ophthalmy, or Inflammation of the eyes; which, in every degree of it, is found, in some measure, to impair the sight; and, in not a few instances, has risen to such a height, as entirely to destroy it.

My design, in the following pages, is—first, to lay before the reader some observations on this complaint—then to treat of

a disorder, which more directly affects the eye-lids, and which I have distinguished by the name of the Psorophthalmy—and afterwards to add a few remarks on the Purulent eye, to which new-born children are peculiarly subject.

To enable us to judge more clearly of these disorders, it is necessary to understand something of the structure of the eye and its appendages: a brief account of which is therefore prefixed, referring the reader, for a fuller and more particular description, to those anatomical authors, who have professedly treated on this subject.

A brief Description of the Eye, and its Appendages.

THE globe of the eye is composed of three transparent humours, which, from their supposed resemblances, bear the several denominations of the aqueous, the crystalline, and the vitreous.

These humours are contained in three proper coats, or tunics, called the Sclerotica, the Choroides, and the Retina; besides which, there is another, common to the globe and eye-lids, called the Conjunctiva.

Of the proper coats, the Tunica Sclerotica is the outermost. This, in the posterior and far greater part of its circumference, is white and opaque; but, in the anterior, is transparent, and takes the name of Cornea.

The Tunica Choroides is situated on the inside of the Sclerotica, between it and the Retina. It is strongly attached to the Scler-

4 *A brief Description of the Eye,*

rotica, round the margin, where the Cornea begins; whence it passes on, and becomes visible through the transparency of that coat. This part of the Choroides is called Iris, being of various colours in different persons; and in its centre is a round perforation, called the Pupil, for the purpose of admitting the rays of light.

The Sclerotica and Choroides are well supplied with blood vessels, particularly the last; the ramifications of which, when well injected, appear to be wonderfully interwoven with one another.

The Retina, or internal coat, appears to be an expansion of the medullary part of the Optic nerve, being a white, thin membrane, of a very soft and tender texture. It lies immediately behind the vitreous humour, round which it is continued to the borders of the crystalline, and is believed by many to be the immediate seat of the sense of vision.

The globe of the eye rests in the orbit, upon a large body of adipose membrane;

and is moved in different directions, by four straight, and two oblique muscles. Five of these take their origin from the bottom of the orbit; the inferior oblique alone arising from its edge: and they are all continued forward, till they are inserted, by a tendinous expansion, from its white colour called *Tunica Albuginea*, into the anterior part of the *Tunica Sclerotica*.

The *Tunica Conjunctiva* is a thin transparent membrane, which lines the inner surface of the eye-lids, and, at the edge of the orbit, has a fold, and is continued forward over the anterior half of the globe of the eye. It is exterior to all the other coats of the eye, and connected with the *Tunica Albuginea*, by means of a cellular substance; from which it may easily be separated, in the dead subject, by dissection. Though, in a sound state, it contains only the serous part of the blood, it is, notwithstanding, extremely vascular; as is proved by injections, and also by the inflammations to which it is liable. It appears to be continued not only
over

over the Sclerotica, but also over the Cornea; and according to Winslow, it is perforated by innumerable and almost imperceptible pores.

The vascular state of this coat appears to be much greater, in that part which lines the insides of the eye-lids, than in that which covers the eye; and its continuance, from the eye-lids to the eyes, is of great use, to prevent the ill consequences, which might otherwise ensue from the insinuation of extraneous bodies between them.

The tears are secreted by a conglomerate gland, called Glandula Lachrymalis, which is situated in a small depression of the orbital process of the Os Frontis, near the outer angle of the orbit; from which they are poured out by small ducts, and continually spread over the surface of the eye, to keep it clear and transparent. They pass from the eye, through two minute orifices, at the inner angle, called the Puncta Lachrymalia, which open into a small bag, called Sacculus Lachrymalis; and this bag is continued
thence,

thence, through a bony channel, and opens immediately into the nose.

The little red body, observable at the great or inner angle of the eye, is called *Caruncula Lachrymalis*. It was thought to be the secretory organ of the tears, until a more accurate dissection discovered the true gland at the opposite angle. Some have since supposed, that it secretes an oily humour, like that issuing from the small glands on the inside of the eye-lids: but, in fact, we seem to have acquired no certain knowledge either as to its structure or use. It may be said to direct the tears into the *Puncta Lachrymalia*; and, in that office, is much assisted by a reduplication of the *Tunica Conjunctiva*, which has been called *Valvula Semilunaris*. This valve is to be seen plainest, when the eye is turned towards the nose. It is situated close to the Caruncle; and is shaped like a crescent, with its points inclined to the *Puncta Lachrymalia*.

The situation and figure of the eye-lids are too obvious, to need description. They hang
like

like veils or curtains before the eyes; and are furnished with muscles, capable of very quick motion, to defend the eyes from those injuries, to which their situation might expose them. The structure of the eye-lids is of the Reticular kind; and they are very easily distended by accident or disease.

The edge of each of the lids is principally formed by the extremity of the thin cartilage, called Tarsus. These edges take the denomination of Ciliary, and are so adapted to each other, as that, when the two lids are extended over the eye, they meet.

It deserves notice, that the ciliary edges are not sharp, like the edge of a knife; but rather flat, like the back of it; having properly two terminations, one external and the other internal: the former of these it is, that meet when the lids are extended; while the latter, or internal, still preserve a small distance from each other; leaving a gutter or grove, through which the tears are supposed to pass from the Lachrymal gland to the Puncta Lachrymalia, while we are asleep.

It

It should also be remembered, that the Cilia, or eye-lashes, arise out of the external termination of these Cartilages; and on the internal, at an evident distance from them, is a line of small orifices, which is the excretory ducts of small glands, that lie on the inner surface of the Tarsus, and are called *Glandulæ Ciliares, vel Meibomii*. The use of these glands is to secrete a sebaceous matter, similar to soft wax; which constantly covers the edges of the lids, and keeps them supple.

The above short account of the eye, and its appendages, seems to contain all that is necessary to a right understanding of the following remarks.

Of the Ophthalmy.

THE term Ophthalmy is generally used to express—an inflammation of that part of the Tunica Conjunctiva, which covers the globe of the eye.

It has before been observed, that the Tunica Conjunctiva is a transparent membrane, and receives its white colour, in a state of health, from the Tunica Albuginea, which lies immediately behind it. But notwithstanding this transparency, it is proved to be vascular by the inflammations which sometimes attend it; during the continuance of which, those vessels, which naturally admit only the finer lymphatic parts of the blood, are enlarged, and become visible, by the intrusion of the red particles.

The Ophthalmy is found in very different degrees. It sometimes occupies only
a part

a part of the globe of the eye; but, in common it extends itself over the whole. It may be superficial, affecting the Conjunctiva only; or so deep, as to reach the Sclerotica and internal coats. In general, the Conjunctiva does not appear to be much thickened: but sometimes its membranous appearance is entirely destroyed, and its projection causes the Cornea to appear depressed and sunk in the globe. When the Ophthalmy is in this state, it is, for the most part, accompanied with violent pain; and is described, in many books, under the name of Chemosis.

The pain, however, is not always in proportion to the appearance of the Ophthalmy. In many cases, where the inflammation seems to be of the slightest kind, the agony is almost insupportable: especially when the eye is exposed to the light; and in some others, where the inflammation appears to be most violent, the uneasiness is so trifling as scarcely to be mentioned, though the eye be constantly open and uncovered.

Whatever

Whatever the degree of inflammation may be, it will, in general, be found that light is offensive to the eye; and in order to avoid the pain which it occasions, persons, who labour under this complaint, are frequently observed to keep their eyelids shut.

For greater security in this respect, as well as to prevent the motion of the eye, some have practised the injurious method of binding compresses, or plaisters, tight over the eyes, which, by confining the tears, add to the irritation; and, by their pressure, increase the obstruction in the minute vessels, on which they act. Instead of this, I would recommend the use of a pasteboard hood, or bonnet, to be worn at a greater or less distance from the eyes, as the particular case may require: and, if this is insufficient to prevent their being hurt by the light, the patient must submit to the confinement of a room, where little or none enters.

But it must not be supposed that the access of light is the only cause of pain. Instances are common, in which, though
the

the light be excluded, the sufferings of the patient are continual and excessive, from acute pains, which dart through the eye to the back part of the head. This may be the effect of a less, as well as greater, degree of inflammation; and such sensations always indicate much danger of the loss of sight.

In some cases, the patients constantly imagine that they see black specks, or points, move before the pupil; which symptom is often observed to come on, after the more violent ones are abated. Like the former, it is a frequent forerunner of the Gutta Serena; and is generally accompanied with such a fixed state of the Iris, as renders it incapable of contracting or dilating.

During the continuance of the inflammation, small ulcers are often formed upon the Cornea, which, being first caused by it, serve afterwards to increase it, and render the cure more difficult. These ulcers generally heal in a depression, which is a great

great impediment to the sight; causing objects to appear as if they were seen through crinkled glass.

Sometimes the external lamina of the Cornea becomes misty, and, at length, universally opaque, without the alterations being preceded by any considerable inflammation of the Tunica Conjunctiva. In such cases, vessels containing red blood are not unfrequently observed to pass from the Conjunctiva over the surface of the morbidly opaque Cornea. Many cases of this kind have come under my notice. They are, however, rare, when compared with the numerous instances in which an opacity of the Cornea is preceded by a violent inflammation of the Tunica Conjunctiva.

Small abscesses are also sometimes formed between the lamina of the Cornea; which, instead of discharging their contents, harden into white opaque specks, and, according to their size, either partially or totally prevent the entrance of the light. If the
specks

specks be superficial, they may wear off in a course of time; but if they penetrate through the whole thickness of the Cornea, they do not seem to admit of any remedy.

These abscesses sometimes burst on the inside of the Cornea, and discharge the matter they contain, into the anterior chamber of the aqueous humour, to the bottom of which it descends, by its own weight; and here it makes an appearance, like the white speck at the root of the nails, on which account it has been called *Onyx*. The matter, thus produced, is usually small in quantity; the solid texture of the Cornea naturally indisposing it for a large supuration.

Nevertheless it not unfrequently happens, when there is a long continuance of a violent Ophthalmy, that the quantity of matter, formed in the anterior chamber, becomes much more considerable, without any perceptible disorder in the above-mentioned coat of the eye; and, in this larger
collected

collected state, it takes the name of *Hypopion*. It is difficult to ascertain as well the source from which this matter proceeds, as the manner in which it is formed; and it is, at present, needless to enquire into either of them, since they can determine nothing with regard to the mode of treatment.

Matter sometimes collects also in the posterior chamber of the aqueous humour.—It may here either remain in a fluid state, or be inspissated into a solid substance. If it continue fluid, a part of it usually passes through the pupil into the anterior chamber, and falls to the lower margin of the Cornea. When it becomes inspissated it most commonly forms adhesions, either to the capsule of the crystalline humour, or to the posterior surface of the Iris, or to both; and in consequence of these adhesions, the pupil becomes contracted, and its figure is rendered more or less irregular, according to the extent of the adhesion. Sometimes the inspissated matter continues
loose

loose, and varies its position in the aqueous humour. In this case, if it be small in quantity, it changes its place, according to the direction in which the head is held; and therefore sometimes it passes through the pupil into the anterior chamber. Sometimes, again, the inspissated matter remains fixed in the posterior chamber, and there takes the shape of a membrane; dividing this chamber into two distinct cavities, and answering precisely to the idea entertained by the ancients of the cataract. This membrane often adheres by its circular edge only; the middle part continuing loose and moveable. In such a case, as the adhesion is only partial, the pupil still keeps its figure; and the Iris, also, preserves its capacity for motion, though not to the same extent as when there is no adhesion. When the pupil contracts, the adventitious membrane has, in some instances, been observed to protrude through it, but to return to its former and common situation, when the pupil is dilated.

The causes that produce the Ophthalmy are various.

It frequently comes on in the most sudden and unexpected manner, without any preceding or concomitant illness. When it happens in this way, the common people call it a blast in the eyes: and, indeed, it seems to proceed from some peculiar property in the air, which surrounds us. Like other epidemical diseases, it often affects a whole neighbourhood, at the same time: as was the case during the summer 1778, at Newbury in Berkshire, and in several of the camps; where it was known by the name of the Ocular Disease.

Blows on the eye, according to the force with which they are given, may bring on very different degrees of inflammation. If slight, the effects are, most commonly, of short duration; but if violent, a confusion in the coats and humours often takes place, and, in consequence of it, a blindness which appears to be incurable.

Wounds and punctures are attended with
consequences

consequences equally pernicious. Swords, knives, and such like instruments, generally enter between the globe and orbit, pierce the Conjunctiva, wound the cellular membrane that sustains the eye, and, if continued onward, penetrate into the brain itself. Wounds thus occasioned produce the most dreadful head-achs, inflammations, abscesses, and sometimes immediate death: but if the mischief be done with needles, pins, or sharp-pointed instruments like them, they are more apt to pierce the globe itself. Hence it often happens, that such punctures are followed with the immediate and total loss of sight.

It is not unusual for blows on the eye, as well as punctures and small wounds, to produce an extravasation of blood under the Tunica Conjunctiva. The quantity of blood thus extravasated is sometimes so considerable, as to elevate the Conjunctiva above the level of the Cornea, in the same manner as in the Chemosis; and, at other times the quantity is so small, as to be no otherwise visible, than by a little redness, round the

vessel from which it issued. It is here to be noticed, that the appearance of the extravasated blood, though at first red, after a few days, turns dark and livid.

Similar extravasations may also take place without any external accident. Persons of a plethoric habit seem more subject to them than others, and they are most likely to happen, when the weather is hot. The effects, in the instances last mentioned, are probably owing to a debility in the vessels of the Conjunctiva, which renders them unable to resist the impetus of the rarefied blood. But whatever be the cause, whether internal or external, if the eye have sustained no other injury, the extravasation never occasions pain, nor, in any great degree, affects the sight.

When the Cornea is wounded, it sometimes happens, that a portion of the Iris is forced through the wound, and thus forms one species of the Staphiloma. The inflammation, which was at first occasioned by the injury done to the Iris, is continued and heightened, by the irregular pressure of the projecting part against the

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the inside of the eye-lids. This inflammation often affects the internal parts of the eye, as well as the external; and the capsule of the crystalline, in particular, is very liable to be rendered opaque by it.

It might be apprehended, that, in consequence of the above-mentioned accident, the pupil would certainly contract: and so it usually does, but not always; for cases do sometimes occur, in which, either through the smallness of the pressure made upon the Iris, or the superior power of resistance in that membrane, the pupil does not suffer any contraction at all.

From the same cause, I mean the projection of the Iris, and the pressure made upon it, it also not unfrequently happens, that the pupil is drawn from the centre to the outer margin of the Iris, and is changed from a circular to an oval and irregular shape. And yet, notwithstanding this change of situation and form, it is sometimes found to preserve its size, together with its power of contracting and dilating; and the sight continues as perfect

fect in all respects, as if no such accident had happened.

If, in consequence of a wound through the Sclerotica and Choroides, a portion of the Retina be forced through and entangled, the pupil, instead of contracting, becomes dilated, as it is in a confirmed Gutta Serena; and the sight is immediately and totally destroyed.

Foreign bodies entangled in the eye are another common cause of inflammation. These, during their continuance, occasion great pain and an inability to move the lids. They also excite an additional secretion of tears; the flow of which is, in general, sufficient to remove them: but if that fail, the lids must be held open by the fingers, and the patient desired to look towards the side, which is opposite to that wherein the extraneous substance lies; when, if small, it may be wiped off with wet lint on the point of a probe. If there be reason to suppose that more particles than one are in the eye, it may be necessary to send a stream of warm water over it, by means of a syringe; or to fix an eye cup on the lids,
filled

filled with water, or some other mild liquor. The cup, being shaped exactly to the part, will permit the lids to be opened or shut at pleasure, whilst the eye is immersed in the fluid which the cup contains.

If there be an adhesion of the extraneous body to the Cornea, and that so strong as to resist these attempts to remove it, authors recommend that it be separated with the point of a lancet; which, no doubt, if due care be taken, may be done with perfect safety; but, previous to this, it cannot but be advisable to make use of a thin blunt-pointed scoop, something larger than a common probe; which has this advantage over the lancet, that it will not wound the Cornea, and consequently will leave no scar, that might be afterwards an impediment to the sight.

Sometimes, small extraneous particles, insinuated under the upper lid, adhere to it so closely, that none of the means above-mentioned are able to remove them. In these cases, it is necessary to turn the inside of the lid outward; and this may, without difficulty, be

be effected with the fore-finger and thumb of one hand, applied to the lower edge of the lid, under which the complaint lies; a small pressure being at the same time made by a probe, or any similar instrument, in the other hand, on the outside of the lid, a little above the upper margin of the tarsus, for the purpose of keeping that part down, till the lid be first gently raised, and then turned. In this position of the lid, the foreign particle is immediately brought into sight; and, as was before directed, it may be removed either by wet lint on the point of a probe, or, in case of necessity, by the point of a lancet.

I have met with a few instances, in which small pieces of Iron, having accidentally fallen into the eye, continued there for several days; after which, a suppuration has taken place round them, which has separated their attachment, and they have dropped out of their own accord. But, in general, it must be very unsafe to trust to the operation of nature in such cases; for the continuance of these, or of any substance, in the eye, even for a short

short time, is likely to bring on inflammations of the most violent and injurious nature.

The Ophthalmy may be occasioned not only by extraneous particles insinuated under the eye-lids, but by warts, or tumours of any other kind, situated upon, or near, their edges. These, when the lids are shut, pressing unequally against the edge of the opposite lid, keep up a constant irritation of the eye; and this can only be cured by completely removing the tumours that occasion it. Children are more subject to an Ophthalmy from this cause than persons further advanced in life; and from them I have sometimes had occasion to remove five or six of different sizes, chiefly encysted. They are usually situated, as has just been observed, near the edges of the eye-lids. I have, however, seen hard tumours of different kinds within the lids, at a considerable distance from their edges; in which latter case as well as in the former, their complete removal is the only mode to obtain an effectual cure of the Ophthalmy. Chalk stones also have occasionally been formed

within the eye-lids, and have produced violent and painful inflammations of the whole eye. A remarkable instance of this kind came under my care a short time ago, and will be described among the cases.

Sensations not unlike to those that are occasioned by the lodgement of a foreign particle between the eye and the eye-lid, are sometimes felt without the existence of any such cause to produce them. Those who have been debilitated by anxiety, fatigue, or previous indispositions, are most likely to be attacked in this way. Two instances will be adduced among the following cases, in illustration of the remark now made. But it is incumbent upon me to add, that they very rarely take place; and their number will not admit of any comparison with the numerous instances that occur, in which similar sensations are experienced in consequence of the insinuation of a foreign body between the eye and the eye-lid. Whenever, therefore, a patient is suddenly attacked with such a sensation, the utmost care should always be taken to discover the

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the cause of it, and when discovered, to remove it without loss of time.

The small-pox and measles are two other frequent causes of the Ophthalmy. In the former, the face often swells, the eyes red-den, and the eye-lids are closed for a considerable time, by the glutinous matter which lodges on their edges. At the same time, a thick humour collects between the lids and the globe, which irritates, inflames, and sometimes ulcerates the Cornea. In the measles, the eyes are always affected; and the tears, which flow in an increased quantity, feel remarkably hot, and painful to the patient: but, in both these disorders, the more frequent and lasting mischief is done to the eye-lids, as will be particularly remarked in the next section.

The inflammation of the eyes may also be justly esteemed one among the variety of bad effects which result from a scrophulous habit; being frequently found in company with enlargements of the submaxillary glands, thickness of the lips, and other certain symptoms of that disorder: but these kinds of Ophthalmy,

my, like those last mentioned, are, in general, preceded by, and attended with, a disease of the eye-lids, which is properly glandular, and will be the subject of a separate chapter.

It should not be forgotten that an inflammation of the eyes is likewise one of the effects which are sometimes occasioned in children by difficult dentition; and in cases of this kind neither internal nor external remedies can prove effectual for the cure of the Ophthalmy, until the tension of the gums be taken off by thoroughly dividing them down to the teeth. In performing this operation, which is best done with a common gum fleam, I usually make two incisions, one perpendicular to the other, in order to be more sure that the wound may not close again afterwards over the teeth.

In persons more advanced in years, I have also sometimes seen an Ophthalmy accompanied, and perhaps caused, by a decayed and painful tooth; the removal of which has been necessary, before the inflammation of the eye could be abated.

The venereal disease is produced by so active a poison, that when it has once entered the habit, no part can be said to be exempt from its malignant influence. Monsieur St. Yves observes, that the Ophthalmy very rarely proceeds from a venereal taint; but says, that he has met with several cases, in which it was plainly owing to this cause: he then adds the following remarkable account: “ That, in
“ most of the cases, the disease in the eyes
“ appeared two days after the beginning of
“ a virulent Gonorrhæa. The matter, being
“ suppressed from the Penis, seemed to pass
“ through the eyes, staining the linen in a
“ similar manner.” This account is the more surprizing, because such an effect, as is here described, has never been observed by other writers on this subject, or any one of the faculty with whom I am acquainted; though some of them have had a long and extensive practice both in the Ophthalmy and Gonorrhæa. Whenever a metastasis takes place in the Gonorrhæa, which is not uncommon, the change is made to one or other of the follow-
ing

ing parts: to the testis, producing a *hernia humoralis*; to the neck of the bladder, where it is attended with what has been called the *Algado*; between the *præputium* and *glans penis*, causing a spurious kind of *Gonorrhæa*; to the groins, exciting buboes; or else, being absorbed into the blood, it is diffused through the whole habit, and, in a longer or shorter space, discovers itself by the true and certain signs of a general Lues. A metastasis, in any of the instances here pointed out, may happen, in consequence of a premature cessation of the primary discharge; but so complete and quick a transition of the venereal poison, from its first seat to another so distant as the eye, is, I believe very uncommon, if ever the case. Nevertheless, it is a fact not to be controverted, that such a complaint, as St. Yves describes, does sometimes accompany the *Gonorrhæa*: but, instead of commencing two days after the formation of the *Gonorrhæa*, as is particularly stated by St. Yves, I have more commonly observed it not to arise, till some time after mercurials had been applied,
for

for the cure of the latter disorder. Nor is this purulent kind of Ophthalmy peculiar to those subjects, in which a Gonorrhæa has been previously contracted: for, in many instances, the former has been found to take place, where the person, affected by it, has been entirely free from any venereal taint: * and, even in subjects thus infected, it has also very frequently been observed, that the Ophthalmy above described, during the use of mercurial medicines, has been increased to such a degree, as to generate matter behind the Cornea, in a quantity sufficient to rupture this coat; and hereby, in its consequences, greatly to endanger, if not utterly destroy the sight. Now, from such instances, of which numberless have occurred, are we not

* The Ophthalmy that deprived of their sight a considerable number of our brave soldiers in Egypt, during the campaign in 1801, and which is said to be endemic in that country, appears to have been of this nature;—and the discharge which issues from the eyes of infants in the disorder distinguished by the denomination of *The purulent eyes of new born children*, which will be considered in the sequel of this work, is not unlike to that which comes from the eyes of adults in the cases to which a reference is here made.

naturally led to impute more to the extreme irritability of the eye, than to any other cause; and this especially, when, as is well known, this effect is commonly found to follow on the use of mercurial medicines in many habits; and which are of course hereby rendered peculiarly liable to inflammations, from the slightest other concurring causes? By these remarks I do not mean to deny the possibility of an Ophthalmy, proceeding solely, or chiefly, from a venereal complaint: but, when it has this origin, the disorder most commonly shews itself by an inflammation of the internal parts of the eye, as well as of the external, altering the colour of the Iris, and the round figure of the pupil, and attended with a great exacerbation of pain during the night; and in such cases the habit is universally, and in general, to a violent degree, infected with the same disorder.

It has been said, that if any of the matter which passes from the Urethra, in a Gonorrhæa, be applied to the eye, it will bring on an Ophthalmy, accompanied with a discharge,
similar

similar to that which previously took place from the Urethra. Probable as this may appear in speculation, I have found it very difficult to ascertain the fact.* It is certain, however, that variolous and scrophulous matter, applied in the same manner, have produced the similar effect of inflammation: and it therefore becomes necessary, in all such

* At the time that I am correcting for the press the fourth Edition of this Tract on the Ophthalmy, I am consulted in a case which strengthens the opinion of those who think the purulent Ophthalmy is occasioned by the application of diseased matter to the eye itself. Two female children, the eldest only five years of age, were attacked with a purulent coloured discharge from the Vagina, without any previous indisposition, or any probable cause that could be assigned for it. The surgeon, who usually attended the family, recommended a vitriolic lotion to be injected, which in a short time removed the disorder. The operation of injecting the lotion was performed by the mother of the children; and, about a week after it had been used, the mother, who, as well as the father were perfectly free from any complaint similar to this of their children, was attacked with an inflammation of the right eye, the Conjunctiva of which swelled very rapidly; and it was soon accompanied with a profuse purulent discharge. Evacuations of various kinds had been employed, but without abating the disorder, and at the time I saw her the Cornea was on the point of bursting, which happened that very day, totally destroying the eye as an organ of vision. Happily the other eye was not affected in a similar manner.

cases, in order to prevent the possibility of communicating infection, that the handkerchief or cloth, applied to the patient's eyes, should be confined to his use alone: and such caution should be especially observed, in families where there are children; as they are more likely to receive injury in this way, than grown persons.

There is yet one other cause of the Ophthalmy, which, though a less common one than those already pointed out, it will be proper just to mention; and that is an inversion of the edges of the eyelids, called by authors, *Trichiasis*. This, by causing the hairs, growing out of the ciliary edges incessantly to rub against the eye, greatly irritates it, so as to bring on inflammation; which, if the cause be not soon removed, will increase and become violent.

In a few instances, also, a preternatural row of hairs has grown; which, without any inversion of the lid, as in the case last mentioned, have, by their friction against the eye, greatly inflamed it.

Having

Having said all, that appears to be necessary on the nature and causes of the Ophthalmy, I now proceed to treat of the proper methods of cure.

Bleeding is generally recommended, and cannot but be highly proper, in most ophthalmic cases; but from what part, and in what manner, the blood should be taken, are, I apprehend, points which deserve a more particular attention, than has been usually paid to them.

When the Ophthalmy is attended with any considerable degree of fever, as it sometimes is, or, when the habit is plethoric, as is the case in some subjects, it will be necessary, before any thing else is done, to take eight or ten ounces of blood from the arm. If, after this, the inflammatory symptoms still continue, the bleeding must be repeated; and this, as often, and in as large a quantity, as shall be found necessary; which can alone be determined by the particular circumstances of each case. In some instances it has been necessary to bleed

even eight or ten times, in as many days. But, as in the greater number of cases, the fever is merely symptomatic, the object more immediately to be attended to, in common, is the removal of the irritation on the eye; for when that ceases, the fever produced by it will of course subside.

To effect this, whether the case points out the necessity of a previous bleeding in the arm, or not, it will be highly expedient to bleed, by one mode or other, on or near to the diseased part. Opening the temporal artery is, on all hands, allowed to be a mode of bleeding most effectual, as well as speedy, for the purpose. The near situation of this artery to the seat of the disease cannot but render it peculiarly desirable, that blood should be taken from it: but here, the two following difficulties lying in the way, prevent its being generally used. The first is, it often happens, that this artery will not yield a quantity of blood, sufficient to answer the end: and the second, that troublesome, and even dangerous, hæmorrhages have been sometimes
found

found to issue from the orifice, at the distance of many hours after the operation. On these accounts, the application of leeches to the temples has been generally preferred. Three are commonly found sufficient, and the use of them has been attended with every success, which could be expected, or desired from it. At the same time it must not be passed over, that in some obstinate cases, when this mode of bleeding has failed, and though aided by various other means, hereafter to be described, it has been judged necessary to make a compleat transverse division of the temporal artery; which has been preferred to barely opening it, as the division would not only cause a derivation of the blood from the part affected, but must also cut off a principal source, by which the inflammation was constantly fed: and in this mode of proceeding, I have known great relief to be almost instantaneously given to the patient, on whom all other applications have proved ineffectual; and without any bad consequence whatsoever.

The external jugular vein has also been sometimes opened in this complaint. But it has not been commonly done ; because, though this vein does indeed receive blood from all the vessels distributed to the external parts of the head ; yet, not coming immediately from the eye, the opening it does not yield so direct a derivation as the former mode of bleeding, or as that which follows.

I have before recommended the application of leeches to the temples, as very proper, and sufficient in most common cases ; and so it certainly is. It is, however, to be observed, and should be remembered, that they are not to be placed on, or very near, the eye-lids : for, when thus applied, they have sometimes been found to occasion a considerable swelling of the lids, and have also, for a time, increased, instead of lessened, the irritation on the eye. In order to prevent these mischiefs, it will be proper to apply the leeches in the hollow of the temple, about the distance of an inch and a half from the outer angle of the orbit,
and

and to put them as near together as possible. *

But of all kinds of bleeding, that which would be most effectual, if it could be performed without adding to the irritation, is the still more topical mode of bleeding the eye itself. This has been attempted different ways. Some have scraped the Conjunctiva with a brush made of barley beards; while others have opened the inflamed vessels with the point of a lancet; or, if one or two only were distended, have made use of a crooked but sharp-edged needle, which they have introduced underneath the vessels, dividing them by its edge, as it cut its way out. As to the first of these methods, that of bleeding the eye with barley beards, though I have used it several times, I never found any great or lasting benefit to be produced by it. In a few instances, the pain it occasioned was

* Eight or ten ounces of blood may sometimes be taken away by opening the vein that passes on the side of the nose, near the inner angle of the eye-lids; and when the inflammation of the eye has been considerable, this operation has not unfrequently afforded very considerable relief.

very severe, and the inflammation, instead of being lessened, was afterwards increased; which I could no otherwise account for, than by supposing that some of the fine invisible spiculæ of the beards were left in the eye. As no care can prevent this accident, it appears to be an insuperable objection to the practice. The two modes last-mentioned may be tried in cases where the blood vessels, connected with a speck on the Cornea, are not to be cleared by any of the common methods which are used for the purpose. Yet, in both these modes of practice, there must always be no small uncertainty; as the simple division of the vessels has, in very many instances, not been effectual, so far to destroy their continuity as to answer the end. This has not uncommonly occurred in my use of them; on which account it has been necessary to take away a small portion of the vessels, as well as to divide them. This I have effected with success by the following operation, and would therefore recommend it to others, where the two former are found

to fail. The upper and lower lid being kept separate by the hands of an assistant, the vessel or vessels to be operated on must be first raised by a hook or forceps in one hand of the operator, while, with a small pair of curved sharp-pointed scissars in the other, he is to cut off the raised and included portion, parallel to the circumference of the Cornea. If the vessels lie near enough to one another, two or three may be operated on at the same time; but as all such vessels must be divided, if it cannot be done at once, the operation must be repeated as often as necessary, which will depend on the number of these vessels, and their relative situation to one another.

There is one other particular mode of taking blood from the eye, which, in acute inflammations, has sometimes been very useful. In the description of the eye, prefixed to these remarks, it has been observed, that the blood vessels, visible in that part of the Conjunctiva which covers the inside of the eye-lids, are much more numerous than those observable

observable in that part of it which covers the globe of the eye. In consequence of this, it always happens in the Ophthalmy, that the inflammation is greatest on the inside of the lids, the blood vessels, in that part, being often not only much increased in number, but also extremely full and turgid: and sometimes the whole of the inside of the lids, particularly the lower one, is so much enlarged, as to be constantly everted. In both these cases, great benefit has been derived from scarifying them with a lancet, by means of which a considerable quantity of blood has been removed. When, again, the swelling of the everted lids has been very considerable, great and speedy relief has been given, by cutting off a portion from each of them with a pair of curved scissars; the loss of blood, consequent on this, diminishing the general swelling, while the reduction made in the size of the lids, by the same operation, has caused them almost instantly to return to their natural position.

This operation of removing a portion of
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the Tunica Conjunctiva from the inside of the everted eye-lid, is not only useful when the eversion is accompanied with an acute Ophthalmy, but is also sometimes the only effectual remedy in those cases, which are vulgarly denominated bleared eyes, where the eversion of the lid is unconnected with any considerable inflammation, and, from its long continuance, may be considered as a chronic disease. The only caution necessary to be attended to, by those who perform the operation, is to avoid wounding the cartilaginous edge of the lid, lest it leave, after the cure, a notch or depression on this part.

The Ophthalmy is sometimes accompanied with an œdema of the upper eye-lid; in which case the thickness of this part is so considerable, that the patient is unable to raise it, and consequently, so long as this continues, it is impossible to obtain an accurate knowledge of the state of the eye. In such instances a few punctures, made with a lancet on the outside, and near to the edge, of the lids, will cause the discharge of a
bloody

bloody water, which will greatly, and often instantly, diminish its size, and will render the application of suitable remedies to the eye itself much more effectual than they could have been before this was done.

Bleeding, by some of the modes now mentioned, and in a greater or less quantity, seems to be necessary in most cases of the Ophthalmy, and makes no small part of the cure. This however, great as its utility is, will not suffice of itself; but must be aided by other means, which I shall now specify.

The use of blisters is admitted by almost every writer on the subject; but there have ever been different opinions concerning the part, to which they should be applied. Hoffman thinks the feet the most proper; and relates, that a blister, applied on the nape of the neck, had been found by him to increase the pain in the eyes; whilst one applied to the feet gave relief, as soon as the discharge took place. Pouteau, on the contrary, would, in all cases, have them placed as near the diseased part as possible. In short,

short, medical authors have differed in nothing more, than in their ideas on the utility of what is called Derivation and Revulsion. Both these terms suppose a discharge, and differ only in the part from which the discharge is procured; which in the former, is as near as possible to the seat of the disorder; and in the latter, at the greatest possible distance from it. Now from what we know of the laws of circulation, in common subjects, it should seem, that a discharge from any one part of the body would take off equally, or in proportion, from every part; and, consequently, would produce that diminution of the whole quantity, from which alone any benefit could be expected. Yet this reasoning will by no means apply in all cases, where some one part of the body is singly affected: for, numberless instances might be adduced from the best practical authors, of the efficacy both of Derivation and Revulsion, in various external, as well as internal, complaints. So far, however, as my own experience has gone in cases of this kind, the benefits produced

duced by Derivation have been much greater than those by Revulsion: and it is, accordingly, a fact fully verified by practice, that the greater the Derivation is, and the nearer to the inflamed eye, the more considerable are the benefits produced by it; whether the discharge be of the serous, or of the sanguineous kind. For these reasons, when the leeches have fallen off, and the consequent hæmorrhage has ceased, I would advise a blister, of the size of half a crown, to be applied on the temples, directly over the orifices made by the leeches; and I have found, that the sooner the blister has followed the bleeding, the more efficacious both have proved.

When the Ophthalmy has been very severe, and all the common methods of relief have failed, the most beneficial effects have also sometimes been produced by the application of a blister, large enough to cover the whole head. Nor is this by any means inconsistent with the opinion above advanced respecting Derivation and Revulsion; the increased discharge from a blister of this size
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on the head, being more than sufficient to counterbalance any little disadvantage which may attend it, in point of distance from the part affected.

When the Ophthalmy is accompanied, or when it has been preceded, by an eruption of pustules on the hairy part of the head, (which circumstances are by no means uncommon in children,) it will be proper to shave the head twice every week; and after cleaning it, morning and evening, either with milk and butter, or with soap and water, to keep it covered with an oiled silk cap, which should be applied each time dry and warm. The cap promotes a copious perspiration from the pores of the head: and sometimes occasions an increase in the eruption of pustules. In this way it forms a powerful derivation from the eye, and has frequently afforded very great assistance towards the cure of the Ophthalmy. If the eruption on the head under this treatment become so considerable as to give trouble, which very rarely happens, the number of pustules may be lessened

ened by embrocating them with the expressed juice of houseleek, mixed with an equal proportion of cream, and then by covering the head with a piece of singed linen under the cap.

Through the whole progress of the disorder, every thing that can heat or irritate should be carefully avoided; the cooling and antiphlogistic regimen should be used, with gentle laxatives to keep the body open. At the same time, the patient is to be guarded with no less care against strong purges, which have often been employed, in this and many other complaints, without answering any other end, than that of lowering and weakening the habit. Hippocrates, it is true, has said, that a diarrhœa, or flux of the lower belly, was a cure for the Ophthalmy: but, by this, he must be supposed to mean, either a diarrhœa, which takes place without the interference of physic at all; or one, according to the explication of Riverius, that is produced by the mildest medicines, and such as restrain the fever of the blood.

It

It must be observed, however, that in consequence of the close sympathy between the eyes and the bowels, when the latter are loaded with slimy fæces, they not only prove a nidus for worms of various sorts, but occasion, not unfrequently, among other symptoms, an inflammation of the eyes. From this circumstance the Ophthalmy in children is sometimes incurable, until active purges are administered, thoroughly to cleanse the primæ viæ; and for this purpose I do not know any medicine more effectual than a few grains of Calomel, given at bed time, and ten or fifteen grains of Jalap on the following morning. The dose of these medicines should be sufficiently powerful to procure four or five copious stools; and it is generally requisite to repeat the purge three or four times, and sometimes oftener, in quick succession. But it should be remembered that the object, in administering such remedies, is solely to evacuate the morbid contents of the stomach and bowels, and by no means to debilitate the general system. Good broth, or beef
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tea, should therefore be given during the time of their operation; and afterwards preparations of the Peruvian bark, or of steel mixed with myrrh, will be found of use to strengthen the general habit.*

Besides the methods of cure above recommended, some local applications are necessary. I would particularly recommend the Thebaic Tincture of the old London Dispensatory: a medicine composed of Opium and warm aromatics, dissolved in mountain wine. The power of Opium, when inwardly taken, to ease pain and induce sleep, has been long known: but its external use is absolutely forbidden by some very respectable persons of the medical profession. Galen relates, that a gladiator was killed by a plaster of Opium applied to the head: and other authors have said, that blindness and

* The hairy substance that grows on the outside of the pod of the *Dolichos Pruriens*, or Cowhage, has been employed with great advantage, when mixed with syrup, in the West Indies and in other places, to promote the expulsion of worms of different kinds. See a tract on this subject written by Mr. Chamberlayne, surgeon in London.

deafness were caused by its application to the eyes and ears. Experience, however, makes directly against these assertions; and proves, beyond contradiction, the great efficacy of its outward use in a variety of cases. In the Ophthalmy, particularly, I have found the Thebaic Tincture,* wherein Opium is the principal ingredient, to be eminently serviceable: and the mode in which I have applied it, has been to drop one drop of it into the eye, (or rather to place one drop of it in the cavity that is made by the junction of the eye-lids near the nose, and to allow it to glide gradually on the eye, by gently drawing down the lower lid,) once or twice a day, according as the symptoms were more

* The following is the mode in which the Thebaic Tincture was directed to be made in the London Pharmacopœia, published in the year 1745, and according to which I always prepare it.

R. Opii Colati, pondere uncias duas.

Cinnamomi.

Caryophyllorum aromaticorum, singulorum
pondere drachmam unam.

Vini albi, mensurâ libram unam.

Macera per hebdomadam sine calore, deinde per chartam colā.

or less violent. When first applied, it causes a sharp pain, accompanied with a copious flow of tears, which continues a few minutes and gradually abates; after which, a greater and remarkable degree of ease generally succeeds.

The inflammation is often visibly abated by only one application of this tincture; and many bad cases have been completely cured by it in less than a fortnight, after every other kind of remedy had been used for weeks, and sometimes months, without any success. But this speedy good effect is not to be expected in all cases indiscriminately. In some, the amendment is more slow and gradual, requiring the tincture to be made use of for a much longer time; and a few instances have occurred, in which no relief at all was obtained from its first application. In cases of the latter kind, in which the complaint is generally recent, the eyes appear shining and glossy, and feel exquisite pain from the rays of light. However, notwithstanding these symptoms, the application is sometimes found to succeed; and whether

ther it will or not, can only be determined by making the trial; which is attended with no other inconvenience than the momentary pain it gives. When it is found to produce no good effect, the use of it must be suspended, until evacuations, and other proper means, have diminished the excessive irritation; after which, it may again be applied, and bids equally fair for success, as in those instances in which it never disagreed.

Though I have said, that Opium is the basis of the Thebaic Tincture, it is yet necessary to observe, that the manner in which it is here prepared is that, on which its efficacy not a little depends. I have several times applied a strong solution of Opium in water without any success. The pain, indeed, was sometimes lessened for a while, but the inflammation always remained in its full force, as if nothing had been done.

I have also occasionally made the experiment of the sole application of the other principal ingredient, which is mountain wine. But this I found, while it produced a still
stronger

stronger irritation in the eye, and of much longer continuance, than the tincture, was seldom followed with any kind of benefit.

Having thus satisfied myself, that neither of the ingredients, in their separate state, was able to give the relief which they did when combined in the tincture, I have for a long time past confined myself almost wholly to the use of the latter; and I am warranted, from repeated experience, to recommend it, with the helps and cautions above given, as a most effectual application in this disorder.

It ought to be remarked, however, that when the Ophthalmy is accompanied with a violent pain in the head, as well as in the eye, a strong decoction of poppy heads, applied as a fomentation, has sometimes been joined with great advantage to the use of the Thebaic Tincture, and of the other remedies that are above recommended. If the habit be much relaxed, a fourth part, a third, or even a half, of brandy, or of spirit of wine, may be added to the fomentation; and

and after the pain is somewhat abated, compresses, wet with a mixture of equal parts of brandy, verjuice, and water, and sometimes of brandy alone, bound on the eyes during the night, have produced very essential service. In a few instances also, where there has appeared to be a considerable torpor in the vessels of the Conjunctiva, I have known a fumigation of eyebright mixed with one fourth part of tobacco to afford very manifest relief.

It may be expected, that I should say something of the manner in which the Thebaic Tincture operates, when applied for the cure of the Ophthalmy. I have found it very difficult to satisfy myself in this particular, but shall submit the following thoughts to the judgment of the faculty.

Its first obvious effect is the same with that of every other stimulus; which is, to cause pain and heat in the eye: at which time, if the eye be carefully inspected, the number as well as magnitude of the blood-vessels will appear to be increased. At the
same

same time a flux of tears will be excited from the lachrymal gland; and, it may be, an additional secretion of fluids from those exhaling pores, of which the Tunica Conjunctiva is full. The effects above described are most probably produced by the vinous and aromatic part of the composition; and by their action I suppose the circulation of the fluids to be accelerated, and some minute obstructions to be removed. The discharge it occasions, may also be considered as a derivation, made immediately from the diseased part, by which it is somewhat emptied and disburdened. The severity of the stimulus does not continue long, and as soon as it is gone off, the eye becomes perfectly easy, and the blood-vessels will be found, not only to be less than they were on the first operation of the medicine, but much less than before it was applied at all: and the consequent ease and tranquillity of the eye may, in part, arise from the discharge which the medicine has occasioned, but more, from the known specific power of the opium, to take off irritability and relieve pain.

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It may not be improper to add, that in the late editions of the London Pharmacopœia, the College has thought proper to leave out the Thebaic Tincture entirely; to supply the place of which they have introduced another medicine, which is denominated by them *Tinctura Opii*. This latter tincture is composed of ten drachms of opium digested in a pint of rectified spirits. The proportion of opium is, therefore, smaller than it is in an equal quantity of Thebaic Tincture; but, being infused in rectified spirit instead of wine, I believe it is usually supposed that it possesses, when taken into the stomach, an equal anodyne power with that of the Thebaic Tincture. It must, however, at once be evident, that if the *Tinctura Opii* be applied alone to a delicate and inflamed membrane, it will act with more pungency, and occasion greater pain, than would be occasioned by the application of an equal quantity of the *Tinctura Thebaica*. But as the *Tinctura Opii* is the only preparation of this kind, that is directed by the last College

lege Pharmacopœia, to be kept by apothecaries, and as this tincture is intended by the college to be used, in general, as a substitute for the *Tinctura Thebaica* of the former Pharmacopœia, it does not seem improbable that medical men may occasionally have forgotten the difference between these two remedies; and, having the *Tinctura Opii* only at hand, may have applied it to the eye in those cases, in which the *Tinctura Thebaica* was alone recommended: in consequence of which mistake, the severe pain, occasioned by the application of the *Tinctura Opii*, may have been inadvertently attributed to the *Tinctura Thebaica*; and the last-mentioned remedy, from this cause, may have been brought into unmerited disrepute.

The quantity of spirit permitted by the college to be added to vinous tinctures, to hinder them from passing into a state of fermentation, is only in the proportion of about one-twentieth part of the whole. If such a permission be accurately regarded, I do not believe that the stimulative effects
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of the Thebaic Tincture will be essentially increased by it; but having procured this medicine from different druggists, I have observed so great a difference in the pain it has occasioned, when applied to an inflamed eye, that I cannot help thinking the permission of the College has been received with too great a latitude. It may be proper however to remark, that a portion of the same tincture, which at first was highly pungent, has been found to lose much of its stimulative power after being kept a few months, and has then been applied with advantage in many cases of the Ophthalmy, although at first it was observed manifestly to disagree with them.

The pain, which the application of the Thebaic Tincture occasions, depends again in no small degree on the mode in which it is applied. If, as has before been stated, the eye-lids be held open, and several drops be dropped on the ball of the eye from a considerable height, which has not unfrequently been done by persons unaccustomed
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to its use, the pain which it gives will be much greater than if a drop of it be placed in the cavity, which is made by the junction of the eye-lids near the nose, and then the lids be separated, either by drawing up the upper, or by drawing down the lower, so that the drop may glide gradually over the eye.

Much of the pain which this application produces depends also on the state of the eye immediately before it is used. It most commonly happens that an inflamed eye, on being inspected, becomes watery; and if the eye be suffused in tears when the tincture is applied, its pungency will be much less felt than if it be quite dry. For this reason, among others, an advantage has not unfrequently been obtained by applying the *Unguentum Hydrargyri Nitrati* to the edges of the eye-lids prior to the application of the *Tinctura Thebaica*. For, notwithstanding this ointment is a stimulating remedy, it is less pungent, if accurately used, than the *Thebaic Tincture*; and in consequence of its
exciting

exciting a considerable secretion of tears, the action of the tincture will be much less powerful after its use than it would have been before ; and I have repeatedly thought, in this way of applying it, it has been equally if not more beneficial.

Though the above-mentioned salutary effects are in general experienced, and in a very remarkable degree, from the application of the Thebaic Tincture, in cases of the Ophthalmy, nevertheless, instances will sometimes occur, in which, without any considerable appearance of inflammation, the pain both in the head and eye continue violent, even after the general fever is removed, and so as to resist the united power of this most efficacious anodyne, though taken inwardly, as well as applied outwardly, and used in both ways with regularity and freedom. The pain remits, and sometimes wholly intermits, at stated periods, usually returning with increased violence every night. In such cases, the internal parts of the eye seem to be principally affected ; and in some of the more obstinate ones, where a

great variety of other remedies had been tried in vain, I have occasionally had recourse to the Hydrargyrus Muriatus ; which, taken inwardly in small doses, has been attended with considerable and speedy success. With this medicine I have not unfrequently prescribed the Decoctum Sarsaparillæ Compositum, of which a large cupful should be given three or four times in the course of the day.

It may perhaps be recollected by the reader, that in the observations which I published on the scrophulous and intermittent Ophthalmy in the year 1792, which were annexed to others relative to the Epiphora or Watery Eye, I took particular pains to recommend the internal use of the Hydrargyrus Muria-tus, in preference to that of the Cortex Peruvianus, in those cases of the Ophthalmy where the symptoms intermit ; and I adduced at that time several cases to exemplify its superior power. Much subsequent experience has contributed to confirm the good opinion I then entertained of this medicine ; and I have the satisfaction to add that in a great variety of
such

such cases I have afforded the most striking relief by means of it, after the Cortex Peruvianus and various other medicines had been found totally incompetent for this purpose. The remark I then made is perfectly correct, that this medicine has also been singularly useful in several cases where the inflammation of the eye followed putrid and nervous fevers. The inflammation in these cases, though small in appearance, is generally attended with a deep seated pain in the orbit, which is much increased during the night; with a peculiar dulness in the transparent parts of the eye, and with considerable general debility. But though, on this latter account, those remedies are highly proper which tend to recruit the constitution, yet I have rarely observed that unaided by other means, they have been sufficient to remove the disorder of the eye. A few instances have, indeed, occurred, in which the Cortex Peruvianus administered in large doses, and at small distances of time, has afforded speedy and great assistance; and some of these will be described with minuteness
among

among the following cases ; but I feel it my duty to caution against the hasty adoption of this remedy, since the instances, in which it is likely to prove useful, are extremely rare, and if it be improperly employed, in such large doses, it will increase the inflammation and much aggravate all the symptoms.

In peculiarly irritable eyes, and especially when the Ophthalmy is accompanied with a frequent sneezing or coughing, I have observed, after the acute inflammatory symptoms have abated, that small doses of opium, such as two grains of the *Pulvis Ipecacuanhæ compositus*, or four or five drops of the *Tinctura Opii*, or a few grains of the *Succus Cicutæ Spissatus*, taken internally, once or twice in the day, have greatly contributed to remove the weakness of this organ. During their use, costiveness should be avoided by occasionally giving mildly laxative medicines.

A solution of the *Hydrargyrus Muriatus* in distilled water, in the proportion of one grain to four ounces, has been recommended by some authors, as a good outward application
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in all ophthalmic cases, but particularly those of a venereal kind. This, the same authors have observed, will be found generally useful in removing films and excrescences from the Cornea. I have made trial of it for the purpose last mentioned, in the proportion of a grain to a pint of water, and have sometimes found it to be very effectual. In cases where the film has not penetrated below the surface, it has been soon removed; though in others, where the complaint has gone deeper in the Cornea, the cure has required a longer time. In cases of the latter kind, it will not only be proper to use the solution of the Hydrargyrus Muriatus, but to touch the opaque part once in a day with the Unguentum Hydrargyri Nitrati, which last is to be applied warm, on the point of a small pencil brush.

Before I proceed farther, it may not be improper to remark, that in consequence of the incautious manner in which lotions are applied to the eyes, it too often happens that they are incapable of producing any effect whatever. This it is evident must be very much the case

if their application be confined solely to the external parts of the eye-lids. To obviate such disappointments, instruments have been invented adapted to the shape of the eye, which may be purchased at almost every glass shop, or china shop, in London, under the name of eye-glasses, or eye-cups; by applying the lotion in which, the liquor necessarily passes over the eye, and is brought into contact with every part of its surface. In some instances, however, and particularly when the eye is much inflamed, the weight of the contained liquor, and the suction produced by the cup, have occasioned considerable uneasiness. On these accounts, I think it in general better, if a warm application be proper, to apply it in the form of a fomentation, taking care that the eye-lids be occasionally opened during its use that the eye may receive the vapor;—and, if a cold one be preferred, to dab the edges of the eye-lids with it by means of a sponge or a soft piece of old linen, two or three times in the day,—or to drop a little of it into the cavity

vity that is formed on the side of the nose where the eye-lids unite, from which, when the lids are opened, if the head be inclined backward, it will naturally glide down on the eye, and pass over every part of it.

It is a question of no small moment, and perhaps has not been sufficiently attended to by surgeons, whether a lotion should be applied to the eye warm or cold. It has been a usually received opinion that warm applications relax and weaken those parts to which they are applied; and, on the contrary, that cold applications have a tendency to brace and strengthen them. But though this observation be sometimes just, it is by no means universally true. Weakness is not unfrequently the result of pain; and whatever removes pain, in the same proportion contributes to give strength. Weakness, again, is sometimes occasioned by too great fullness, not merely in those vessels which convey red blood, but likewise in the lymphatic vessels, and often also in the glands that are connected with the surface of the body, and the ducts that carry off the secretions of these

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glands;

glands ;—and whatever tends to diminish the fulness of these parts, or to carry off the substances that are morbidly lodged in them, contributes, in the same proportion, to increase their strength. In some of these ways I presume it is that the application of hot water to the eye is frequently useful, not only when it is in a state of inflammation and pain, but when the ciliary glands are enlarged, and when they secrete an acrimonious or glutinous humour ; which humour adhering to the orifices of the ducts as it passes through them, forms more or less of gum on the edges of the eye-lids, and causes them to stick together when they have been long in contact. Weakness, again, is sometimes the result of too great tightness or stiffness in those elastic parts which are formed for a greater or less degree of contractile action ; and whatever tends to restore the power of contraction of these parts, contributes to increase their strength and promote their usefulness. In this way I account for the utility of the application of hot water when the eye feels morbidly dry ;—
and

and also when it begins to lose its power of accommodating itself to the view of near objects; a change which takes place in most eyes that are not naturally short-sighted, as persons advance in life, and which it is probable in some degree depends on the too great tension of the Cornea, and its inability to acquire that increased convexity which it is necessary it should have, in order to enable it duly to refract the rays of light when they come from near objects.

Useful, however, as hot applications undoubtedly often are, it should not be forgotten, on the contrary, that in those cases where the weakness of the eye is accompanied with a morbid secretion of tears, without much inflammation;—and, sometimes, in those also where the lachrymal secretion is accompanied with an increased acrimonious discharge from the ciliary glands; which discharge excoriates the edges of the eye-lids, and makes them adhere together when they have been long in contact, as during the time of sleeping; cold applications, and those which possess a de-
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gree of astringency, such as the Zincum Vitriolatum, Cerussa Acetata, Lapis Tutiae and Lapis Calaminaris, (and particularly five or six grains of the Zincum Vitriolatum mixed with an equal quantity of the Cerussa Acetata, and four ounces of the Aqua Florum Sambuci,) have often afforded very essential assistance.—But in the composition of all remedies for the eye where insoluble bodies are employed, whether they be in the form of ointments, or in that of lotions, it is of great importance always to remember that they should be reduced to an impalpable powder;—and in general it is desirable that aqueous mixtures should be passed through filtering paper before they are sent to be used by the patient.

It has been said, page 14, that specks or opacities in the Cornea, under certain circumstances, seem not to admit of any remedy. I would now beg leave to explain myself a little further on this head. Every one knows, that the slighter films, which shew themselves on the Cornea during an Ophthalmy,

thalmy, often disappear, as the Ophthalmy goes off. And this has sometimes been the case, even with regard to those opacities, which, during the Ophthalmy, seemed to cover the Pupil entirely, and almost the whole of the Cornea. But, as I said above, all opacities of the Cornea are not capable of receiving this relief. Some specks arising from different causes, seem to enter so far into its texture as to alter its very nature. Such, in particular, are those produced by pustules, which form upon the Cornea, during the small-pox; not only occupying the outer surface, but penetrating to its inmost lamina. Nevertheless, it will sometimes so happen, even in these cases, that the opacity does not obtain equally, in every part, as far as the speck goes. Of consequence, where the opacity was least, it has gone off soonest; but the darker parts have also in time, in many instances, received full relief: and where the speck could not be wholly removed, the size of it has been much lessened. It must be allowed that nature in such cases,
has

has been known to work its own cure, without the aid of any foreign assistance whatsoever; but it is as true, that some applications have, from their own specific quality, so direct a tendency to disperse any matter which may be the cause of obstruction, as must render it, in all cases, greatly desirable that nature should be assisted; both for the sake of facilitating and forwarding the cure. And to such assistance, it is to be very much attributed, that, in some instances, specks, which had remained long after the inflammation was gone off, have been removed; but which probably, had nature been left to itself, would have always remained. I have before noticed the solution of Hydrargyrus Muriatus, and the Unguentum Hydrargyri Nitrati, as good outward applications in the cases last described. Both these preparations unite in producing the effects of a temporary inflammation, accompanied with an increased flow of tears. These seem to be not unlikely means for carrying off any opaque particles lodged in the Cornea, and restoring it to its natural transparency.

transparency. In much the same way, the Thebaic Tincture has not uncommonly been found useful in similar cases. The Pulvis Vitri and Saccharum Album have also been much used for the same purpose, and are in such cases blown upon the specks, or rubbed over them by means of a brush. But these last, are much less active than the applications before mentioned, and, they seem to operate chiefly, if not solely, by the friction they make on the Cornea.

Notwithstanding the usual cause of an opacity of the Cornea is, as has been observed above, an inflammation of the eye, yet a similar opacity has taken place, in some instances, with very little inflammation, and in others without any appearance of it whatsoever. In the third edition of the *Ophthalmy*, which was published in the year 1795, I mentioned two cases of this kind which had come under my care. One in a child who had a marked scrophulous constitution; and the other in a young woman, who laboured under a menstrual obstruction. In both these patients

tients the disorder in the eye was accompanied with much general debility; on which account, preparations of bark and steel were administered internally; and with the use of these medicines half a grain of Calomel was joined, which was given every night at bed time. The chief local applications that were used were the citrine ointment and powdered sugar. Blisters were occasionally put behind the ears; and, in the instance of the young woman, three leeches were applied to the temple, once every week for a month. By these means, in the latter case the opaque matter was wholly absorbed; and, in the former its progress was stopped, and the sight preserved.

Since that time I have attended several cases of a similar kind, some of which were relieved by a similar mode of treatment, but others received no essential assistance from it; and in these last, I was at length obliged to perform an operation for their cure, which will be particularly described in the 14th, and two following cases.

It may be of use to remind the reader here,
that

that in elderly persons an opacity not unfrequently appears round the whole circumference of the Cornea, without any previous disease whatever; and the opacity sometimes extends so far forward as to leave very little more than the aperture of the pupil quite clear. This change in the structure of the Cornea has been described by authors under the name of Gerontoxon, vel Arcus Senilis. It has been the cause of great alarm to many; but, if it be unconnected with inflammation of the eye, I have never known it seriously to affect the sight. It is therefore needless to recommend any remedies for it.—In a few instances I have known a similar opacity to take place in the Cornea of young persons; and in one, after the Arcus Senilis had been some time formed, a slight Ophthalmy ensued; in consequence of which, the opacity spread so far forward on one side of the Cornea, as essentially to injure vision. In this case, on examining the eye, I perceived a cluster of blood vessels passing over the Conjunctiva, and terminating in
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the Cornea on that side where the opacity extended furthest over the pupil. I immediately removed a portion of these vessels with a curved pair of scissars, having first raised them with a small forceps. When this was done, a vessel was perceived which lay deeper than the rest, and penetrated evidently into the substance of the Sclerotica. This vessel I divided transversely with the point of a lancet; and a copious hæmorrhage ensued. The good effects of the operation were immediately perceived by the patient, who at once distinguished objects much more distinctly than she had been able to do for a considerable time before; and afterwards, by the use of common antiphlogistic remedies, the inflammation was soon subdued, and the sight perfectly restored.

Whilst speaking on the subject of opacities in the Cornea, which come without any preceding Ophthalmy, it may be proper to observe, that a small speck sometimes forms in the center of this tunic, without any previous inflammation, in those peculiar cases in which

which the Cornea undergoes a change from its round figure, and assumes a conical or sugar-loaf shape. In consequence of this alteration in the figure of the eye, it not only becomes myopical, but the rays of light are refracted in so irregular a manner, that the sight even of near objects is confused and imperfect. This is made much worse when a speck, as has just been mentioned, forms in its center. The remedies above recommended for opacities of the Cornea are undoubtedly proper to be used here; but I fear they will seldom be found to avail much, so long as the morbid projection continues unsubdued. For the cure of this I have tried at different times a great variety of remedies. In some instances I have punctured the Cornea, and evacuated the aqueous humour; after which, by the application of thick compresses on the outside of the eye-lids, I have endeavoured to counteract the morbid propensity; but when this humour has been regenerated, which usually takes place in a short space of time,

time, the Cornea has always resumed its projecting figure. The greatest relief I have hitherto given, has been by the application of a few drops of a strong infusion of tobacco; by a perseverance in the use of which remedy, three or four times every day, the conical appearance of the eye has, in a few instances, been diminished, and the patient's sight greatly mended.

Under the circumstance of blood's being extravasated under the Tunica Conjunctiva, the application of *Æther* has often been an effectual remedy. A few drops are to be poured into the palm of the hand, and diffused over it; which will be immediately done by pressing the other hand against it. The hand is then to be applied to the eye, and kept so close to it, that the spirit, as it evaporates, may act on the blood, that is forced from its right channel, so as to disperse it.

In a few instances of this kind, as likewise of that species of Ophthalmy which is called Chemosis, where the swelling as well as the

inflammation of the Conjunctiva have been considerable, I have also found that the following application has afforded great service.

R. Interiorum foliorum recentium

Lactuæ Sessilis uncias duas.

Coque, cum Aq. Pur. drachmâ unâ, in balneo mariæ, per sextam partem horæ; tunc exprimatur succus, et sæpe applicetur paululum ad oculum et ad palpebras.

The application of sea water, in some such cases, has also much promoted the absorption of the extravasated blood.

When matter is collected in the anterior chamber of the aqueous humour, if the quantity be not considerable, the means above recommended for the Ophthalmy, vigorously applied, will, in common, be found sufficient for the purpose of absorbing it; and its absorption will be sometimes promoted by dropping into the eye, once or twice in the course of the day, a few grains of powdered sugar. But if the quantity be large, or if, where the collection is smaller, it be found, under the use of absorbent means, to increase in-
stead

stead of diminish, it will then be necessary, without delay, to make an incision through the inferior part of the Cornea, in order to discharge it. This incision will be best performed in the manner used for dividing the Cornea, in the operation of extracting the Cataract.

Under the present complaint, it should, however, be particularly attended to, that the point of the knife is to enter the Cornea about one tenth of an inch above the surface of the collected matter; which is highly necessary to its being carried on both with ease and certainty. And from a neglect of this circumstance in introducing the knife, it has not uncommonly happened, that the operator has found himself deceived; having carried his knife no further than between the laminæ of the Cornea, when he expected to have penetrated through it.

In some cases, matter, after having been discharged by the operation, has again collected in the same part; and, in a few instances, this has been repeated several times:

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the best expedient for preventing which, is to take care that the first incision of the Cornea be sufficiently large. But should matter form after the first opening, to whatever cause it be owing, it will be absolutely necessary to repeat the operation; and this, as often as there shall be found occasion.

I cannot dismiss the subject above treated of without entering a caution against delaying the operation, whenever it becomes necessary; as such delay, if continued for any considerable time, may issue in the total destruction of the Cornea, and, of consequence, the irrecoverable loss of sight. And even after the sight is gone, the great injury done to the eye, by the general suppuration which has been suffered to take place in it, may be the source of continued additional and extreme pain. In this last and worst stage of the complaint, should it unfortunately have arisen to this height, nothing remains, but to open a way for the discharge of the morbid matter, together with the vitiated humours,

either by making a large aperture sideways through all the tunics of the eye, or, if the diseased state of the Cornea make it necessary, by removing the whole of its anterior portion; after which, what remains of the tunics will of course subside to the bottom of the orbit, and a vacancy will be left, which, if desired, may be supplied by the introduction of an artificial eye.*

It may be expected that I should say something here on the subject of the Unguis or Pterygion. This, however, cannot properly be considered as an effect of the Ophthalmy, because though it occasionally accompanies the Ophthalmy, it is also often unconnected with any symptoms of inflammation. It is defined by authors to be a vascular excrescence; and it usually commences from an opaque

* I have several times been requested to remove the anterior portion of the eye, not only when the opaque and prominent Cornea has occasioned pain by its unequal pressure against the eye-lids; but sometimes solely for the purpose of removing the deformity it had occasioned, and in order to make a way for the introduction of an artificial eye.

point on the inner side of the circumference of the Cornea: whence it is continued in a triangular shape towards the internal angle of the eye-lids. Sometimes it appears also on the outer side of the Cornea; and occasionally, both on the inner and outer. Although its commencement be usually from a point in the circumference of this tunic, the opaque part creeps gradually forward; and I have seen the termination of two excrescences, one on the inner and the other on the outer side of the Cornea, meet exactly in its center, and so as nearly to destroy the sight. The Unguis appears to be occasioned by a fold or puckering of the Tunica Conjunctiva, and not by any adventitious membrane formed on this part. In recent cases I have not unfrequently obtained a perfect cure of the disorder by applying a powder to the eye, twice or thrice in the day, composed of a sixth, or eighth part, of alum, and the remainder of sugar. If it be accompanied with an Ophthalmy, the remedies recommended for this disorder must be joined with the use of the

aluminous powder. And if it be of long standing, and the opacity has spread far over the Cornea, it may be necessary to remove a portion of the folded Conjunctiva with a curved pair of scissors, (first raising it with a forceps,) in order, by this means, to cut off the communication of the distended vessels with the opaque part that injures vision.

Before I conclude, it may not be improper to offer an answer to an observation which I have sometimes heard advanced by medical men, that external applications afford but little assistance in cases of the Ophthalmy. Some have gone so far as to object even to the examination of an inflamed eye; imagining that every attempt to inspect it must increase the irritability of the organ, and thus tend to prolong the disease. Both these opinions appear to me to be founded on very erroneous reasonings; and, if acted upon, I fear they will frequently be productive of serious disappointments. Without an inspection of the eye it must often inevitably happen that we remain ignorant of the cause of the inflammation; and,

and, without this knowledge, our remedies will be prescribed at random ; and be as likely to do harm as to do good. And with regard to the accomplishment of a cure by general remedies, such as bleeding, blistering, purging, &c. although these are often highly proper, and may sometimes prove effectual, I believe the number of cures that have been completed in this way bears a very small proportion to the number of those in which they have been found wholly insufficient, until different local remedies were called in to assist their operation. As an illustration of this remark, I have known an inflammation of the eye proceed to a great height, occasioning extreme pain, and continuing many days, notwithstanding the use of all the general remedies that have been mentioned ; when, upon a careful examination of the eye, the inflammation was discovered to arise from a small bit of dust which had insinuated itself under the upper eye-lid ; the removal of which occasioned the almost immediate cessation of all the symptoms. I have also known a violent
lent

lent Ophthalmy produced by the deposition of a small particle of chalky matter in the substance of the membrane which lines the upper eye-lid, at the distance from its edge of more than the eighth part of an inch, the removal of which, with the point of a lancet, caused, as in the former instance, an immediate abatement of all the symptoms; notwithstanding general and even local remedies had been previously long applied without affording the smallest assistance. Various other instances of a similar kind might be mentioned; but I flatter myself it is unnecessary to adduce them.

In avoiding one extreme, however, we should be cautious that we do not expose ourselves to an equal degree of danger by adopting another. Although it be necessary for a surgeon to make himself acquainted with the state of an inflamed eye, it is not necessary for him to expose an eye in such a state to a great degree of light; nor is it adviseable to make his examination either long or frequent; and although stimulating re-
medies

medies appear to me to be sometimes indispensable, before a cure of the Ophthalmy can be accomplished, it is not every inflammation to which the eye is subject which needs the use of such active applications. I am not by any means an advocate for their indiscriminate use. It is the duty of a medical man not only to contrive means for the recovery of his patient, but, as far as is possible, to consult his ease and comfort in the use of them. When these two objects are incompatible, it cannot admit a moment's hesitation, which of the two has a claim to the preference; and temporary pain and inconvenience must be submitted to, if health and ease cannot be attained without them. It is a happy circumstance, however, that a submission to these is not always necessary in the instances to which I allude at this time. A considerable number of the cases of Ophthalmy which come under a surgeon's notice are occasioned by an acrimonious humour, secreted by the sebaceous glands which are situated on the inside, and near to the edge, both of the upper and
lower

lower eye-lids. For the cure of these inflammations it is an indubitable fact that the application of the Unguentum Hydrargyri Nitrati, together with that of the Tinctura Thebaica, have often afforded very essential service. The application, however, both of the ointment and tincture will give some degree of pain, though they be used in the most cautious manner. This, indeed, would be of little importance, if an equal degree of relief could not be obtained in an easier, and sometimes in a more expeditious, manner: and I am happy in being able to add, that in many such cases I have lately accomplished a speedy cure of the inflammation, by anointing the edges of the eye-lids, once in the day, with a small portion of the following ointment; wiping it gently off, soon after it had been applied, either with the point of the finger, or with the corner of a soft handkerchief.

R. Hydrargyri Nitrati Rubri, (olim Mercurii Corrosivi Rubri,) subtilissimè
levigati ʒß.

Olei Viperarum ʒiij.

Ceræ

Ceræ Albæ ʒj.

Liquefiat cera cum oleo lento igne; co-
letur mistura, et gradatim addatur ad Hydrar-
gyrum Nitratum Rubrum in mortario mar-
moreo: tunc assiduè agitetur donec re-
frixerit.

I have often found it useful to foment the eye,
also, two or three times in the course of the
day either with a strong decoction of poppy
heads, or with a mixture of Tinctura Opii and
water, in the proportion of one-fifth of the
former with four-fifths of the latter. Like
every other remedy, the fomentation should be
applied at first with some caution; and if after
the trial of a few days, instead of producing
the good effects I have mentioned, it be found
to relax and weaken the eye, the use of it
must be omitted, and applications of a gently
stimulative and astringent nature be substi-
tuted in its place.

The peculiar nature of the inflammation
should also be well considered. If there be
much plethora in the system, it will undoubt-
edly be proper to make use of venesection
freely

freely and sometimes repeatedly; at other times blood should be taken, either from the temples by leeches or from the inside of the eye-lids by scarifying them with the point of a lancet. The use of blisters also should not be forgotten; nor the internal administration either of cooling, alterative, or strengthening remedies, according to the state of the patient's general health. But these are subjects on which I have enlarged, at considerable length, in the preceding part of these Remarks.

I only request to have it remembered, that in those cases where the Unguentum Hydrargyri Nitrati Rubri, as above prescribed, either fails to relieve, or ceases to afford the assistance which it at first administered, the application of the Tinctura Thebaica will often prove highly beneficial; previous to which it may sometimes be of great use to touch the edges of the eye-lids with a small portion of the Unguentum Hydrargyri Nitrati, of the last London Pharmacopœia, warmed before a fire or candle, and taken either on the point of the finger, or of a small camel's hair pencil;

but this will be particularly insisted upon in the next chapter on the Psorophthalmy. It is not always easy to discriminate between the cases which are most likely to be served by the former and those by the latter of these remedies. The application of the Unguentum Hydrargyri Nitrati with that of the Tinctura Thebaica appears to me, however, to be more particularly indicated in those instances, where, from the long continuance of the inflammation, the vessels of the Tunica Conjunctiva are not only dilated but are become relaxed and torpid; the eye being weak and irritable when exposed to a strong light, but without shewing signs either of active inflammation or general plethora.

In the enumeration of the common causes of the Ophthalmy, the last mentioned was an inversion of the edges of the eye-lids. For an Ophthalmy thus produced, a palliative cure may be effected, or, to speak more conformably to the fact, a present and temporary relief may be given to the patient, by taking out the lashes with a forceps, a pair of nippers,
or

or any instrument of the like kind. But while the lids retain this inverted state, no sooner do the hairs grow again, than the disorder will again return; nor can the patient be ever properly said to be cured of the complaint, till the edges of the lids are restored to their natural position, and can be kept in it.

It is however necessary, that a distinction be made between an inversion of the upper and lower lid. For though an inversion of either will produce the same effect, yet, in the different lids, it appears to arise from different causes, and, consequently, to require different methods of cure.

The upper lid and its ciliary edge, both in motion and at rest, are preserved in their natural situation, by the equal, though contrary, actions of the *Musculus Orbicularis*, and *Levator Palpebræ Superioris*. But the lower lid, whose motion is very small in comparison with that of the former, has no muscle correspondent to the Levator of the upper; and is preserved in its natural state by the equal action of the orbicular fibres spread over it, and the

counteraction of the skin which covers it: in which last respect it differs materially from the upper lid, the skin of which on the contrary, being always very thin and flaccid, is incapable of any such counteracting power.

From the above account, it is manifest, that when the Trichiasis affects the upper lid, it must be owing to a relaxation of the Levator Palpebræ Superioris, and a contraction of the superior part of the Orbicularis; whereas, in the case of a Trichiasis affecting the lower lid, it can only arise from a relaxation of the skin, and a contraction of the inferior part of the Orbicularis. And, as in these two cases, the causes of the disorder are very different, so they will, of consequence, require a very different treatment. In the Trichiasis of the lower lid, it will be necessary to increase the counteracting power of the skin which covers that lid, so as to prevent the contraction of the Musculus Orbicularis: whereas, in the Trichiasis of the upper lid, it is necessary, in order to complete the cure, to give an additional stimulus to

to the Levator Palpebræ Superioris, for the purpose of exciting it to its proper action.

The Trichiasis of the upper lid happens but seldom. But in an instance of this kind, which did occur, an entire cure was produced by an operation, hereafter to be described, which was performed by a gentleman of great eminence in his profession, to whom I am indebted for the information. For the operation see Case 42.

In the present edition of this tract I have also to add, that in cases of this kind I have sometimes afforded great relief by applying a compress, about the size and thickness of the first joint of the little finger, under the arch of the orbital process of the Os Frontis, and confining it in this position by means of a narrow bandage fastened to the compress, and carried obliquely round the forehead. The skin of the upper eye-lid was drawn upward before the compress was applied; and the compress, by its pressure within the edge of the orbit, prevented the lid from falling again, and consequently

quently hindered its edge, where the eye-lashes grow, from turning inward upon the eye. An intimation of the use of such a contrivance may be seen in the second edition of this tract, published in the year 1787, page 98; but it has been particularly recommended by Mr. Crumpton, an ingenious surgeon of Dublin, who, I understand, means shortly to publish remarks on this troublesome, though happily unusual affection of the eye.

The Trichiasis of the lower lid is a more common complaint. When it is recent, a cure has sometimes been accomplished, by making a fold in the skin below the inverted lid, to draw its edge from the eye. In some cases, nothing more will be requisite to preserve the fold, than to cover it with a piece of sticking-plaster. But at other times, when the plaster cannot be made to fasten, it will be necessary to use an instrument for the purpose, which must be so contrived, as to take up a small portion of the skin, and to hang by it on the cheek. Of such an instrument mention is made in Case 41.

When

When the disorder is slight, the skin may be restored to its natural state by the methods above described. But in more obstinate cases I have generally been obliged, for the same end, to cut off a small transverse portion of the loose skin below the edge of the lid, and afterwards confine the sides of the wound together, by means of two or three sutures; which has effectually answered the purpose. See Case 41.

Cases may occur, however, in which none of these methods will be sufficient for the cure: as, where the ciliary edges are not only inverted, but likewise contracted in length.

Under these circumstances, relief is to be obtained no other way but by enlarging the circumference of the ciliary edges. This may be done, either by an incision at the outer angle, or by a complete division of the cartilage, called Tarsus, in the middle. The first of these operations is no more than a simple straight incision, which may be made with a sharp-pointed curved Bistory. The last will also be best performed by the same instrument;
only

only observing, that the point be carefully introduced between the globe and eye-lid, and carried below the cartilage, that is, about one-eighth of an inch in the whole; whence it is to be pushed outward in a horizontal direction, till it has cut its way through the lid: the cartilage being thus entirely divided, each portion will recede towards the angles, and a separation be left between them, which will not only take off the complaint for the present, but prevent the possibility of its return in future.

I have only further to add, on the extraordinary instance of an Ophthalmy, produced by a preternatural row of eye-lashes, growing out of the inner termination of the edge of the lid; that, as far as hitherto appears, nothing better can be done for it, than the application of the palliative remedy above-mentioned; I mean, the frequent extraction of the hairs by the roots: for, though other attempts have sometimes been made, they have proved so very unsuccessful, as not to deserve further notice.

OF THE
PSOROPHTHALMY,
OR
INFLAMMATION AND ULCERATION
OF THE
EDGES OF THE EYE-LIDS.

*Of the Psorophthally, or Inflammation and
Ulceration of the Edges of the Eye-lids.*

IN the description of the eye, prefixed to these remarks, it has been observed, that the Tunica Conjunctiva is continued from the inside of the eye-lids, to cover the anterior part of the globe of the eye. Whenever, therefore, that part of this tunic, which covers the globe, is inflamed to any great degree, that which covers the eye-lids is liable to be affected in the same manner: but, as this is no more than a symptom, or immediate effect, of the Ophthalmy; it will, in general, be found to go off, as soon as the disorder, by which it is occasioned, is removed.

This, however, is not always the case. In some instances, the inflammation of the lids is attended with an ulceration of their edges, upon which a glutinous matter lodges, that
incrusted

incrusted and becomes hard, and, when they have been long in contact, as, during sleep, connects them so closely to each other, as to require painful efforts for their separation.

Now this is the disorder, of which I propose here to treat. I have called it Psorophthalmy:* because that name is more descriptive of its nature, than any other I could find.

To form a clear idea of the Psorophthalmy, it should be remembered, that on the inside, and near to the edges of the eye-lids, is situated a number of small glands, secreting a sebaceous fluid which is excreted by a row of ducts, opening immediately on the inner edges of their border. These ducts, and sometimes the glands themselves, appear to be the parts principally affected; and the fluid, which is secreted by them, instead of being moist and mild, and serving as a defence against the acrimony of the tears is changed into a sharp, acrid, and adhesive humour; which causes a constant irritation of the eye and lids, ulcerates

* Castellus defines the Psorophthalmy to be *Oculi palpebrarum scabies pruriginosa*.

the inner edges of the latter, and, for want of proper attention, has often perpetuated the disorder for a great number of years.

St. Yves describes this complaint, more accurately than any other author I know, in a chapter, "*On the Ophthalmy, subsequent to the Small-pox.*" He there observes, "that the pustules on the edge of the cartilage of the eye-lids, which penetrate between the Cilia and their inner surface, do not cicatrize, by reason of the acrimonious serosity which incessantly humects the eye: hence follow ulcers, which last sometimes several years, and even during life, if they be not remedied."*

It must, however, be remarked, that though both the small-pox and measles are certainly very frequent causes of this complaint, they are not the only ones. An inflammation of the globe, in itself but small, will sometimes affect the lids, so as to cause them to swell and become red; in consequence of which,

* St. Yves, page 191.

there will be an adhesion of one to the other, and, often, an universal ulceration of their edges. The small pustules, also, which form on the outer margin of the ciliary edge, where the lashes grow and are known by the name of Styes, have, in some instances, brought on an inflammation, which has been continued to the sebaceous glands, and produced all the consequences before described: but, in general, styes give no trouble; they break, and then disappear.

The ulceration in the Psorophthalmy is usually confined to the edges of the eye-lids; but, sometimes, it is seen to extend over their whole external surface, and even to excoriate the greater part of the cheek. In cases of the latter kind, the inflammation which accompanies, has often much the appearance of an Erisipelas, and will receive most relief from cooling applications. The use of the citrine ointment, which will hereafter be recommended, must, in such instances, be deferred until the irritability of the skin is in a good degree abated.

This disorder is also, sometimes, attended with a contraction of the skin of the lower eye-lid; in consequence of which, that lid is drawn down and the inner part turned outward, so as to form a red, fleshy, and most disagreeable appearance, called Ectropium. Whenever this happens, it proves the complaint to be of the most obstinate nature; though it is generally removed by the cure of the Psorophthalmia, which is the occasion of it.*

Several ancient, as well as modern, writers have given an account of disorders affecting the edges of the eye-lids, which bear some resemblance to that I am now describing: but these are represented, either as so slight and trivial, on the one hand, that (if nature require any assistance) the most simple applications to the part affected will be found sufficient for the cure; or else, they are, on the other hand, described as symptoms of the Scrophula, Scurvy, or Lues Venerea, and as incur-

* See a note on this Subject, Page 40.

able by any external means, until the supposed disorder in the habit is properly corrected. Now, it should seem, that these last mentioned effects, which they impute to scrophulous, or other internal causes, are, in reality, the very same disorder, to which I have given the name of the Psorophthalmy; though, in their accounts, we meet with no accurate description of its seat, progress, or effects. And I am further of opinion, that it is much oftener a local complaint, than is generally believed: for, in what manner can it be determined, that it arises from a scrophulous or venereal cause? This, I apprehend, can only be known, with certainty, from the appearance of such other symptoms, as are clearly scrophulous or venereal: whereas, numberless cases continually occur, in which the eye-lids alone are affected, without a single symptom of any other disorder whatever; and to which, all the common methods of relief have been applied in vain.

I proceed, therefore, to give a more particular description of the Psorophthalmy, according to the ideas which from experience, I
have

have been led to form of it. And, in cases of this kind, I consider the ducts of the ciliary glands, as really ulcerated: whence it arises, that the oily soft fluid, secreted by these glands, being mixed with the discharge from the ulcers, is changed into an acrid humour, which quickly forms into a hard adhesive scab. Nor will the complaint stop here: for the scab, lodging on the orifices of the ducts, by the irritation it occasions, will necessarily spread the humour, till it has infected the whole internal edge of the lids: and no effectual relief can be administered, but by suitable applications for a cure of the ulcers, which are the original cause.

But though I am of opinion, that the Psorophthalmy, often, and most commonly, takes place, entirely independent of any other complaint; (at least, as far as can be discovered,) it is yet necessary to be observed, on the other hand, that it is sometimes accompanied with the plainest marks of a scrophulous constitution, and seems evidently to arise from it. In the cases now referred to, as also in scrophulous cases of all sorts, a variety of internal medicines

medicines have, at different periods, been recommended. I shall mention a few of the principal.

The Extractum Cicutæ was proposed by Dr. Storck of Vienna, as a medicine very proper for the cure both of the Cancer and Scrophula: and he has given twenty cases, in which, under his management, it met with the desired success, though not before it had been long used. The dose given by him at first was a pill consisting of two grains, to be repeated twice a day; which was afterwards increased to three pills each dose, and repeated three or four times in the same space. Dr. Storck does not mention the Psorophthalmy, as accompanying any of his cases; but observes, that in several different complaints of the eyes, he had given it with good effect: notwithstanding which, to conclude the whole, he adds, “in malis inveteratis plerumque frustra fuit.” Dr. Fothergill, in the third Volume of the London Medical Observations, gives it as his opinion, that the Cicutæ is much more beneficial in scrophulous, than in cancerous distempers, but
confesses,

confesses, it is not always attended with equal success.

The Cortex Peruvianus, also, has had a great number of advocates. In the first volume of the London Medical Observations, Dr. Fothergill and Dr. John Fordyce particularly recommended it for inveterate Ophthalmies. They both agree, in supposing it will resolve glandular tumours ; and Dr. Fothergill proposes it to be joined with Calomel pills, though his chief dependence is upon the Bark.

The internal use of the sea-water, and bathing in the sea, for scrophulous complaints, have been approved and recommended by the most eminent physicians, for a great number of years ; and seem to have acquired a solid reputation. I must, however, take the liberty to remark, that sea-bathing is highly improper, in every acute inflammation to which the eyes are liable ; and I have frequently observed, that it brought on very violent pain, and much aggravated the complaint. A distinction, however, should be made between acute inflammations of the eye, which are usually accom-

panied

panied with more or less of pain and general plethora, and those slight chronic Ophthalmies which are connected with a scorbutic habit of body, and produce only a weakness of this organ. In instances of the latter kind I have known sea-bathing beneficial. But even in these also it has sometimes disagreed. It is a remedy therefore that should be prescribed with caution.

Many mineral waters, found in this country, are likewise much esteemed for their salutary effects, when taken for the Scrophula.

But, however judiciously these, or internals of any kind, may be prescribed, they are absolutely insufficient in themselves for the cure of the Psorophthalmy; but must be assisted by proper applications to the part affected. The number of patients we meet with, who have gone through some, and even all, of these processes, without any kind of benefit, are sufficient evidences of the truth of the assertion: and this will be more apparent, if we recollect, how many other external disorders we daily see, which are known to proceed from
internal

internal causes, and yet require a topical treatment.

I go on to speak of the proper applications for the cure of the Psorophthalmia. And here it will be necessary for the reader carefully to attend to the description, before given, of this disorder: (see page 106) for, on a due consideration of what I have there said, it will appear, that my design must be, to soften and remove the scabs; and to use such applications to the ulcers, as may correct the acrimony of the discharge, promote digestion, and bring them into a state for healing.

The intention of Monsieur St. Yves, in his direction for the cure of ulcers on the edges of the eye-lids, subsequent to the small-pox, does not appear to be much unlike that which I have here mentioned, as appears in the following quotation I have made from him

“ Ophthalmic waters, in general, are of very
“ little service; but I have found, from my
“ own experience, that, by touching them with
“ the Lapis Infernalis, they cicatrize easily.
“ The violent heat of the caustic must be
“ abated,

“ abated, as soon as they have been touched,
“ by washing the eye in a small glass full of
“ warm water ; you must, above all, take care,
“ that the part of the eye-lid, which was cau-
“ terized, may not bear against the globe of
“ the eye, till the pain is entirely gone off.
“ They may be touched, in this manner, once
“ or twice a week, till they seem to require
“ no more use of the caustic: then lay on
“ these places, morning and evening, Tutty
“ reduced to a very fine powder ; it will cica-
“ trize them.” *

Now, though the intention of Monsieur St. Yves, in the above advice, is similar to that I have mentioned; yet the danger of applying a caustic, so powerful as the Lapis Infernalis, to a part so tender as the edge of the eye-lid, and so near the eye, appears to be a real objection against its use; and has, I believe, deterred most of the faculty from following the practice: and yet it is remarkable, that, amidst all the late improvements in surgery, no other

* St. Yves, page 191.

outward application has been communicated to the world, as far as I know ; which, from its experienced utility, we have sufficient ground for adopting, as a general remedy under such complaints.

To supply this deficiency, in so important a branch of practice, is one principal design of the present publication. For this purpose, I would recommend the use of the Unguentum Hydrargyri Nitrati of the last London Dispensatory, the composition of which is as follows:

R. Hydrargyri unciam unam,
Spiritus nitri uncias duas.

Digere super arenam, ut fiat solutio, quæ calidissima adhuc misceatur cum Axungia Porcinæ liquefactæ et in coagulum denuo tendentis librâ unâ, strenue agitando in mortario marmoreo ut fiat unguentum.

If it be well made, it forms a hard salve of a full yellow colour: but, if the proportions be not exact, or the lard be added either too hot, or too cold, it will want both its proper colour

and consistence; and its success will be much less certain than otherwise it would be.

The manner in which it is to be used, is as follows: Fill a small box with it; let it be warmed by holding it before a candle, till the top of it is melted into an oil: this oil is to be taken off upon the end of the fore-finger, or upon the point of a small pencil brush, and carefully rubbed into the edges of the affected eye-lids. The use of it once in twenty-four hours will be sufficient; and the best time is, when the patient goes to bed. Immediately after the pain excited by the application is gone off, if the lids adhere much together when the patient awakes, a soft plaster, spread with the Ceratum Spermatidis Ceti, is to be bound loosely over the eye-lids, which will preserve them moist and supple in the night, and contribute to prevent their adhesions to each other. Notwithstanding this, some difficulties will often attend the opening them in the morning: for the further relief of which, it will be found of great use, to cleanse them with milk and fresh butter, well mixed together,

ther, and warmed, or with some similar oleaginous application ; which will gradually soften and remove the incruſted matter, and, in a ſhort time, enable the patient to ſeparate them without further trouble.

The Psorophthalmy is often accompanied with a greater or leſs degree of inflammation on the globe of the eye : in ſuch caſes the thebaic tincture and the other remedies that have been recommended, will be of the ſame uſe, as in the caſes of the Ophthalmy already mentioned.

The Psorophthalmy in children is a very common cauſe of the Ophthalmy, and in many ſuch caſes I have accompliſhed a ſpeedy cure of the inflammation by anointing the outer part of the edges of the eye-lids, once in the day, with a ſmall portion of the Unguentum Hydrargyri Nitrati Rubri, the compoſition of which has been pointed out, page 88. It ſhould be gently wiped off ſoon after it has been applied, either with the point of the finger, or with the corner of a ſoft handkerchief. In the Psorophthalmy of children, this

ointment is often more useful than the common Unguentum Hydrargyri Nitrati, which has just been recommended; and it has this great advantage over the last mentioned ointment, that its application does not occasion any pain.

The Psorophthalmy, again, not unfrequently occurs without producing the slightest appearance of inflammation either in the eye or eye-lid. I have attended a very considerable number of such cases; and in many, the only intimation of the nature of the complaint has been derived from the description given by the patients themselves. Whenever I am informed that the edges of the eye-lids have a disposition, be it ever so slight, to adhere to each other after they have been long in contact, as during the time of sleep, and when this is accompanied with an uncomfortable sense of weight in the lids on the approach of night, in consequence whereof the patient involuntarily shuts them, without being drowsy, and without any particular stimulus being applied to the eye to give it pain, I always suspect that the secretion
from

from the ciliary glands is in a diseased state; and in many such cases I have found the success attending the use of the Unguentum Hydrargyri Nitrati, as above recommended for the cure of this disorder, to be quite as effectual as in those other instances where the excoriation and redness of the eye-lids have been visible on the slightest inspection.

In some other cases of this description, after the Unguentum Hydrargyri Nitrati, and various other remedies had been applied for a long time without affording any relief, great assistance has been afforded by applying the corner of a handkerchief to them, night and morning, dipt either in hot water, or in a strong infusion of chamomile flowers, as hot as the eye can bear it. The effect produced by this application is often highly grateful, both in cooling and strengthening the part to which it is applied.

It may strike the reader with some surprise, that hot applications should be recommended in order to strengthen a weakened organ; it being the more usual opinion that hot remedies

have

have a tendency to relax those parts to which they are applied. The application of hot water to a weak eye has, however, repeatedly been experienced to produce this effect; but I think I have found a hot infusion of chamomile flowers still more serviceable. And if the eye be in much pain, a hot decoction of white poppy heads is preferable to either of them; to which I have sometimes added with advantage a fourth or even a third part either of brandy or some other spirit.

But having taken the liberty to propose the application of hot remedies as occasionally useful to a weak eye, I feel it incumbent on me to add, that it is not always easy to determine, where the cause of the weakness is imperceptible, whether hot or cold applications will afford the greater assistance. An inquiry into the constitution of the patient, and into the effects of the different kinds of remedies that have been employed on former occasions, will sometimes afford a good guide to direct us in such cases. A young lady, for example, applied to me a short time ago, on account of a weak-

ness in both her eyes, which prevented her from reading or working for any length of time without suffering great uneasiness from it. No alteration could be perceived in the appearance of either the eyes or eye-lids, and no kind of glasses afforded her any assistance. Vitriolic and astringent applications had frequently been tried, but they always gave her pain, and seemed to increase the weakness. Upon inquiring further, I learnt that though the patient, at the time she consulted me, was in perfect health, she had formerly had so great a weakness in her back, that for many months she was obliged to lie constantly in a horizontal posture. A great variety of the usual remedies had been employed to relieve her of this complaint; but without affording her the least amendment. At length she was carried to Bath, and there completely recovered her strength and activity by bathing in the hot baths of that place. This information induced me to hope, that the weakness in the patient's sight might have been brought on by a cause somewhat similar to that which occasioned the weakness

in her back; and I thought it not improbable that it might be relieved by a similar mode of treatment. For this purpose I advised her to try the effects of fomenting her eyes, night and morning, with a hot infusion of chamomile flowers. The application afforded her almost instant relief; and by pursuing its use, her sight was speedily so much restored as to enable her to amuse herself in reading and working, without suffering any inconvenience from it.

It must not be forgotten, however, that the application of cold water to the eyes every morning is, with many, not only a common but a salutary practice. Far from meaning to discourage the continuance of it, I wish to make it still more useful, by recommending a greater accuracy in the mode of employing it. Instead of using for this purpose the water that has been kept in the bed-room during the night, I would advise to send for a hand basin of fresh water from the spring, just at the time when it is intended to be used. And with regard to the mode of using it, I would
recommend

recommend to dip the corner of a towel in the water, and to apply it to the eyes for a few seconds; then to dip it again and re-apply it; and thus to repeat the application thirty or forty times in quick succession; wiping the face perfectly dry immediately after it has been used. A very small share of experience, however, in such cases will shew that this remedy is not at all times competent to the cure of a weak sight. When, therefore, there is no visible cause for the weakness, and when the usual strengthening remedies have been found rather to increase than to lessen the debility, it appears to me highly proper to have recourse to those that are of a directly contrary nature. A resort in cases of difficulty to remedies that are of a nature opposite to those that have before been used, is by no means a new practice; and in various disorders, medical as well as chirurgical, the adoption of it has been productive of the best effects.*

I must

* It was the observation of Asclepiades, who lived in the time of Mithridate, and was one of the first Greek physicians

I must not omit to mention, that in some instances where the eye has been particularly weak,

physicians who practised medicine at Rome, that if a man attacked with a phrensy came under his care, he would treat him in a particular way, which he specifies; but if the patient had been previously under the care of any other physician, and a treatment, similar to that which he proposed, had been adopted by him and had not succeeded, he would then have recourse to one that was diametrically opposite to it.—Antonius Musa, again, who was physician to the Emperor Augustus, entertained a similar opinion on this subject. The Emperor on account of an illness, which had been supposed to arise from an affection of the liver, had been directed, among other remedies, to bathe in a hot bath. But this, like the rest, having failed to afford him any relief, Musa was consulted; and he, adopting a plan of treatment directly opposite to that which had before been used, prescribed to the Emperor to bathe in the cold bath, and to drink cold water. The history adds, that under this treatment the Emperor was speedily restored to health, and that Musa, in consequence of the success of this prescription, received a large emolument, and, with it, distinguished honours, both from the Emperor and senate, not only for himself, but for medical professors in general. It should not be forgotten, however, that the same physician being afterwards consulted on account of the illness of Marcellus, the nephew and adopted son of Augustus, he prescribed for him a remedy similar to that which had been employed by the Emperor. But instead of curing Marcellus, it killed him. Musa was charged with ordering this cold treatment at an improper period of the disorder, by the instigation of the Empress Livia, on purpose

weak, without a perceptible cause to produce it, the application of spirituous remedies that have been highly rectified, such as the medicine sold at Riga, under the name of the Riga Balsam, or the Æther of the London Pharmacopœia, either alone, or mixed with an equal proportion of sugar and water, has sometimes been greatly useful. In a few instances, also, the excitement of a violent inflammation by the application of other stimuli, has been found of use to overcome the enfeebled action of different parts of the eye; and afterwards by the assistance of cold water alone, and sometimes of sea-water, they have been restored to their proper strength and usefulness. Some again, in cases like that which I am describing, have made use of their own urine, and have thought its application to their eyes has much contributed to strengthen the sight, and to obviate slight though troublesome in-

pose to destroy him. Whether this charge be true or false is uncertain; but the consequence of it was that Musa was driven from the court, and shortly afterwards, was murdered during a sedition of the people.

inflammations

inflammations to which, previous to its use, their eyes had often been subject. The experience of these persons ought not to be neglected; although it will occur to every one that the strength of the urine must greatly vary according to the diet that is used, and the indispositions to which the body is subject. I must also be permitted to add, that it ought not on any account to be applied, when there is an acrimonious secretion from the membrane which lines the urinary passage. An accidental application to the eye, of matter secreted by the urethra at this time, I have reason to believe, has been the cause of some of the most violent and dangerous Ophthalmies that have ever fallen under a surgeon's observation. See on this subject the note page 32.

It may not be useless, to repeat here, a remark that has already been made, when treating on the Ophthalmy, that an irritation of the eye, somewhat similar to that produced by the Psorophthalmy, has occasionally been kept up, for a considerable length of time, by the inversion of a small number
of

of downy hairs, situated near the inner angle of the eye-lids, and sometimes on the Caruncula Lachrymalis itself. In such instances an accurate extraction of the offending hairs is the sole mode by which the irritation and weakness of sight, to which these, by the improper position, give rise, can effectually be removed.

It ought not to be forgotten, also, that a small cartilaginous ulcer has sometimes been formed on the edge of the eye-lids, after the small-pox, which could only be cured by touching it repeatedly, for several days, either with the Lunar Caustic, or Lapis Infernalis, in the way recommended by St. Yves, in the paragraph quoted, in page 111, from his treatise. Such an instance, however, compared with common cases of the Psorophthalmy, which may be relieved by the Unguentum Hydrargyri Nitrati, are extremely rare; and they are to be considered rather as exceptions to the usual state of this disorder, than as examples of it.

I have likewise to add, before I conclude, that a scrophulous constitution is not unfrequently

the source of the Psorophthalmy. In such a case, though the patient be perfectly cured, as far as respects the external symptom, there is yet great danger of its returning on some future occasion. To prevent this, it is of the utmost importance to pursue an alterative course of medicine for a considerable time; besides which an issue should also be opened, to divert the humour from the eye. The good effects of these are, however, not to be expected, without the strictest temperance in diet, and a general habit of regularity in living. In some instances, it will so happen, that no discharge can be procured from the issue: and when, upon trial, this is found to be the case, a perpetual blister, or some other drain, must be substituted in its stead.

ON THE
PURULENT EYES
OF
NEW-BORN CHILDREN.

On the Purulent Eyes of New-born Children.

THE Tunica Conjunctiva is defended from the acrimony of the tears, by a soft thin mucous fluid, which is supposed to issue from innumerable small perforations, dispersed, according to Winslow, all over its surface. This fluid, in its natural state, is very small in quantity; on which account, being also pellucid, it is undiscernible by the naked eye: nevertheless, it is liable, by an irritation or inflammation of the parts which furnish it, not only to be increased greatly in quantity, but to be so altered and changed in quality, as very much to resemble pus itself, both in consistence and colour. Such, I suppose, was the state of St. Yves's patient, which has before been considered (page 29;) and which he, in my opinion attributed, erroneously, to the Metastasis of a recent venereal virus. To the cases re-

ferred to in his account, a few others might be added: nevertheless, I cannot but observe, that such instances are very rarely to be found; nor, in common, is the disorder, in patients of this class, altogether the same as in newborn children.

In the latter, it first discovers itself by a redness in the eye-lids, which, also, in a short time, swell to a size so large, as to prevent their being separated, without the utmost difficulty: after this, a constant discharge of thick yellow matter soon succeeds; which, if the lids can be separated will be seen to spread over the eye, so as entirely to cover it. In common, both eyes are affected nearly in the same manner: and, in bad cases, whenever the child cries, the inside of the lids is turned outward; which is also the case, whenever an attempt is made to separate them with the fingers. This is sometimes the constant state of the lids: and though they should be restored, by the fingers, to their proper situation; yet, on being left to themselves, they immediately return to their former everted state.

The purulent eye is usually unconnected with any other disorder; and is supposed to arise from the child's being imprudently exposed to the cold air: but it is occasionally accompanied with eruptions on the head and other parts of the body; and I have, more than once, seen it attended with evident signs of a scrophulous constitution.

The swelling of the eye-lids, necessarily occasions a tightness or constriction, of their ciliary edges; by means of which, the matter, which is formed on the inside of them, is prevented from wholly running off: and its continuing, between the lids and the globe, serves still further to increase the inflammation; and is, also, the frequent cause of ulcers and specks, which very often partially, and sometimes totally, cover the pupil. These effects may in a great measure, be produced by the acrimony of the matter: but, separate from that, the retained fluid, whatever its quality be, by continually lodging on the eye, is sufficient to destroy the transparency of the Cornea; and, when it has been joined with the pressure

of the swollen eye-lids, it has been known, to cause the Cornea to burst;—the humours to be partially or wholly discharged;—and the eye, of course, to sink in the orbit.

The cure of this disorder, which is known to be attended with such hazardous, and even fatal, consequences to the eye, is an object of no small importance: and, yet, it is undeniably true, that the common methods, which have been used, have for the most part, been found insufficient for this salutary end. Without enlarging upon them, I shall proceed to lay before the reader the description of a method, that I have found, in a great number of instances, to give speedy relief.

An increased discharge, from the minute pores of the Conjunctiva, seems to constitute the first stage of the complaint: and this symptom, without doubt, indicates the necessity of immediately constringing the relaxed vessels, in order to check the redundant discharge. Nor is this intention less proper in the subsequent, than in the earliest, stages of the disorder. Certainly, the sooner it is pursued, the better.

better. It may, however, have a considerable good effect, though the discharged matter should be changed to a purulent appearance; and even though it is turned quite yellow, and accompanied with so high a degree of acrimony, as to erode and rupture the Cornea. That my meaning here may not, however, be mistaken, it is necessary to observe, that though the words, matter and purulency, have frequently occurred on this subject, they never were meant to imply the actual existence of pus; but were used as terms, the best fitted that could be found, to express that similar discharge, which takes place in this disorder. For, here, as in the *Gonorrhæa*, and some affections of the *Schniderian*, and other membranes, such words are commonly used, to express the quality of their augmented excretions: whereas, no ulcers are supposed to exist in those cases, and, consequently, no real pus can be formed. The case, therefore, being rightly understood (that the discharge from the eye is not real pus, but only mucus increased in quantity, and altered in colour, by
some

some irritating cause,) the applications of astringents, in every state and degree of the disorder, will appear to be as reasonable, as it has been found to be successful. For this purpose, I have for a considerable time, and my late partner for a much longer, made use of the Aqua Camphorata of Bates's Dispensatory: and, from experience of its great utility, can, on the best ground, strongly recommend the application of it, in cases of this nature. It is made as follows:

R. Vitriol. Roman.

Bol. Armen. āā ℥jv.

Camphor ℥j.

M. F. pulvis, de quo projice ℥j. in aquæ bullientis ℥jv. amove ab igne et sub-
sidant fæces.

It is plain, from the nature of the ingredients, which form this composition, that it must possess a strong styptic quality: and on this its great efficacy, in the disorder here treated of, chiefly depends. It is, however, much too strong for use, before it is diluted; and the degree of its dilution must always be

be determined by the peculiar circumstances of each case: nevertheless, I may venture to recommend about two drachms of it, to be mixed with an ounce of cold clear water, as a medium or standard, to be increased or diminished, as occasion may require.

It must also be evident, from the preceding description of the purulent eye, that neither this, nor any other medicated fluid, can be well applied to the affected part, by means of a steam, fucus cataplasm, or drops: but that it requires some small degree of force, to send the liquor between the swelled Conjunctiva, which lines the eye-lids, and that part of it which covers the globe of the eye. This cannot be better effected, than by the use of a small ivory or pewter syringe, terminating in a blunt pointed cone. The extremity of the syringe is to be placed between the edges of the eye-lids, in such a manner, that the medicated liquor may be carried over the whole surface of the eye; by means of which, the retained matter will be entirely cleared away, and enough of the styptic power of the medicine left

left behind, to interrupt and diminish the excessive discharge.

It should be remembered, that the quantity of matter, collected under the lids, varies much in different cases; and that, in bad ones, it is formed with amazing rapidity. According to this variation, the strength of the medicine, and the frequency of repeating it must always be regulated. In the mild or incipient state, it may be sufficient to use it once or twice a day, and somewhat weaker than the standard: but, in the worst and most malignant species, it becomes necessary, to repeat it once or twice every hour, and to increase its stypticity, in the same proportion; and when the disorder is in some degree, subdued, the strength of the lotion may be reduced, and it may be repeated less frequently.

The reasons for a frequent repetition of the means just mentioned, in bad cases, are, indeed, of the most urgent nature. Until the Conjunctiva be somewhat thinned, and the quantity of the discharge diminished, it is impossible to know in what state the eye is;

whether it is more or less injured, totally lost, or capable of any relief. The continuance, or extinction, of the sight frequently depends on the space of a few hours: nor can we be relieved from the greatest uncertainty, in these respects, until the Cornea becomes visible.

During the swelling of the eye-lids, emollient cataplasms have been recommended, in books, and are very commonly used; but they are immediately opposite, in their nature, to the method of cure here laid down; and, in the cases, which I have seen, after they had been used, I never could observe the least benefit to be derived from them. On the contrary, I cannot but be of opinion, that they tended to increase the relaxation of the parts; and, in that way, became an additional cause, to keep up, and increase, the morbid humour.

Those cases, particularly, in which the inner parts of the eye-lids are turned outward, appear to be caused by the extreme relaxation, and swelling, of the Tunica Conjunctiva. This membrane being forced outward, by the child's crying, or by any other means, is prevented

vented from returning to its natural situation, by the cartilage called Tarsus; which preserving its natural strength and elasticity, acts, as a tight band, to keep it out. Now, to add to this swelling and relaxation of the Conjunctiva, by emollient applications, in any form, must, surely, be acting against, instead of forwarding, the cure.

In the place of such cataplasms, whenever any applications of that kind are thought necessary, they, also, as well as the lotion, should have a tonic, or mild astringent, property; and I would particularly recommend one, that is made of the curds of milk, turned with alum, and an equal part of Unguentum Sambuci, or Axungia Porcini. I have found this to be highly useful. It should be applied cold, and frequently repeated, without intermitting the use of the injection.

It sometimes happens, that the matter formed between the lids is of a glutinous and adhesive nature; causing the eye-lashes to stick to each other, after they have been closed for any length of time. In this case, after the cata-
plasm

plasm above-mentioned is taken off, and before the lotion is injected, it will be proper to wash off the adhesive matter, with a little fresh butter, dissolved in warm milk, or with some other soft oleaginous liquor.

The eversion of the lids has so disagreeable an appearance, that it greatly alarms those who are unacquainted with the disorder; particularly, as is sometimes the case, when such is their continued state. If it take place only when the child cries, and disappear as soon as the crying ceases, nothing more need be done, than to use the applications above recommended; and, as the swelling of the Conjunctiva abates, this symptom will likewise go off: but, if the eversion be constant, it will be necessary to repeat the injection, oftener than in other cases; and to employ a person, immediately after the use of it, to return the lids, and then to hold on them with the finger, for some length of time, a compress dipped in the diluted Aqua Camphorata, and which, as it dries, is to be repeatedly moistened with this liquid; that the lids, being restored to their
natural

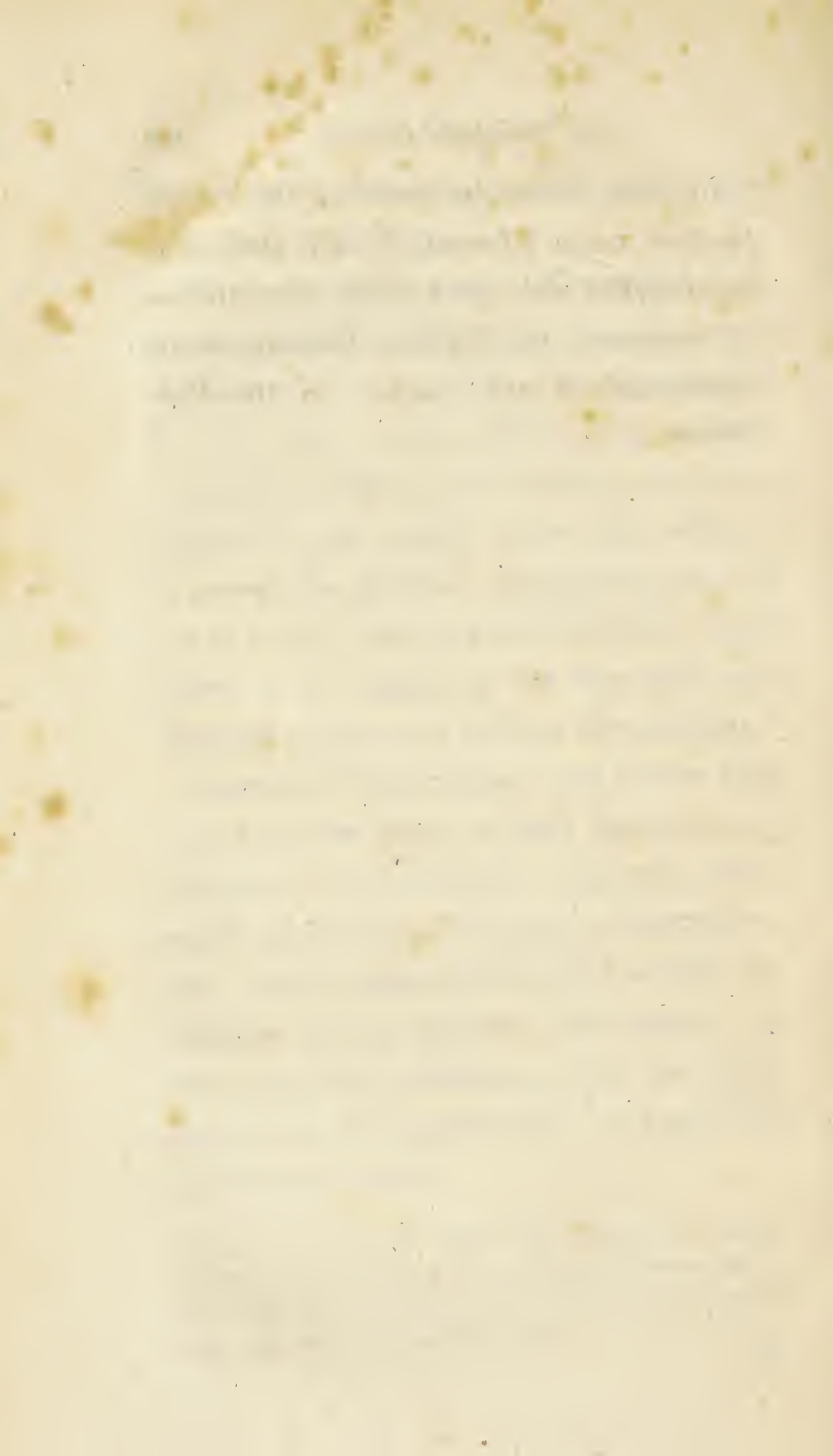
natural state, they may also recover their proper tone and strength.

Where the swelling and inflammation have been considerable, I have sometimes also found it necessary to take blood from the temples. In those very young subjects, who are most commonly affected by this disorder, one leech, applied to each temple, seems fully sufficient to answer the purpose: immediately after the use of which I have in general directed a small blister to be applied on the same part, and sometimes a large one between the shoulders.*

Internals of the absorbent and laxative kind should also be given, to keep the body cool and open; such as Rhubarb, Magnesia, Manna, &c.: and, if there be reason to be apprehensive, that the general bodily habit is under the influence of any particular bad humour; in that case, gentle alteratives should be added, such as the *Æthiops Mineralis*, or small doses of *Mercurius Dulcis*.

* Instead of applying a leech to each temple, as is above recommended, I have lately, and I think with more advantage, taken blood from the inside of the eye-lids, by scarifying them with the point of a lancet.

In cases, where the inside of the eye-lids has been much inflamed, I have also sometimes applied with good effect, after the use of evacuants, the Thebaic Tincture, as recommended in the chapter on the Ophthalmia.



C A S E S.

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CASE I.

*External Application of Thebaic Tincture in
an Ophthalmia with a Speck on the Cornea.*

M. C. about 26 years of age, caught a severe cold after a miscarriage, and the cold brought on a violent inflammation of the left eye. She made use of a great variety of eye-waters without any effect. After this, she was bled with a leech on the temple, at three different times ; and at the distance of a few days from each other ; by which the inflammation was certainly diminished : but upon her taking fresh cold, it returned, and soon became as violent as before. In six weeks, a large speck was discernible on the right side of the pupil, and in part covering it ; and the inflammation was so extreme, that the least degree of light gave her the most exquisite pain. At that

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time

time the Thebaic Tincture was applied according to the directions before given. Its first application produced, as usual, a severe smarting for a few minutes; but this going off, the patient felt a remarkable degree of ease. The inflammation ran so high, when I first saw her, that, besides the use of the tincture, I directed the immediate application of three leeches to the temple of the side affected; which was to be followed by a blister, as soon as the bleeding ceased. It turned out, that the leeches could not be made to hold, and the blister was on that account omitted. The second day, the patient found herself greatly relieved, and the eye appeared to be much less inflamed. The Tincture was therefore applied again, and became so effectual, that there was no occasion afterwards for the use of either the leeches or the blister. In three days she could open her eyes without pain; and in a fortnight, the Ophthalmy was entirely gone off, and the Cornea clear enough to admit such a degree of sight, as was sufficient for all the common purposes of life.

CASE II.

*External Application of Thebaic Tincture,
for Pain in the Eye accompanying an Oph-
thalmy.*

A young lady in the city, from the time of her having the small-pox, which is now about six years,* had been subject to almost continual heating, plunging pains in her left eye, with little or no apparent inflammation.—Before she had the small-pox, her eye was occasionally inflamed; and during its continuance, a pock settled directly upon the sight; leaving no speck, but causing a depression, that prevented the rays of light from falling equally, and which made objects appear, as if they were seen through wavy glass.—She had taken the advice of many gentlemen of the faculty, who chiefly made use of internal medicines,

* This case was inserted in the first edition of these remarks, which was published in the year 1780.

but without any success. Afterwards, at a time when the pain was greater than ordinary, the Thebaic Tincture was dropped into the eye. The temporary smart, which its application always gives, very soon subsided, and was followed by a degree of ease, to which she had been long a stranger. It was repeated every day, for a fortnight, with the same good effect, the pain gradually abating; and from that time to the present, she has never had the smallest return of it.

CASE III.

Thebaic Tincture, aided by Bleeding and Blistering, in a violent and continued Ophthalmy.

Mr. S. about 35 years of age, was attacked with a most severe and painful inflammation in the right eye; which was much increased by close attention to business.—On the third day from its appearance, the Thebaic Tincture was applied; which gave him extreme pain for
near

near the space of an hour, without affording the usual subsequent relief. The same evening, he was blooded with leeches, and blistered on the right temple: in consequence of which, he found himself easier. The day following, the use of the tincture was repeated, and gave him the same pain as before. For several months, he had been subject to a violent aching in both temples: which, in the right, was much relieved by the use of the leeches and blister. On the ground of that experience, the same applications were made to the left temple; and with equal success, so far as regarded the pain in that part: but still the inflammation in the right eye continued as violent as ever. The tincture had been tried three times, previous to the last bleeding; and always gave the same pain, without procuring any ease or amendment. Three drops of a strong solution of Opium in water were therefore dropped into the eye, which seemed to deaden the pain; but, after a week's trial, there was still no change in the appearance of the inflammation. A third application of
leeches

leeches was therefore made to the right temple, and followed with another blister: after which, it was again tried what effect the Thebaic Tincture would produce; when, and not till then, it was attended with no more smart than what it usually occasions; and in a few minutes, the same ease succeeded as in other cases. It was repeated for ten days, night and morning: in which time the inflammation wholly subsided, and the patient was perfectly cured.

CASE IV.

Repeated Bleedings, and other Evacuations, together with the Thebaic Tincture, employed successfully in a Case of Hypopion accompanying an Ophthalmy.

W. R. a fireman, about 23 years of age, by continuing in his wet clothes when attending a fire, caught a violent cold; which brought on a fever, accompanied by an inflammation in his eyes. The latter complaint increased very rapidly,

rapidly, so that, in less than a week, he was unable to distinguish any object whatever; even though placed near him. He was first let blood in the arm, and made trial of many applications to the eyes, for the space of a fortnight, without the smallest benefit. At that period of the disorder, I first saw him. He complained much of a pain in his head, and of a tenderness which he felt in the back part of it, as if he had received some outward injury; though, in fact, none had happened to him. The Tunica Conjunctiva, in each eye, was greatly inflamed; and in both, at the bottom of the anterior chamber of the aqueous humour, there was a collection of purulent matter. Besides this, I could perceive in the right eye a separate collection of matter, on the side of the Iris next the temple, nearly in the mid-way between its external margin and that which formed the pupil; and, by the collected matter last named, the aperture of the pupil was also much contracted, and rendered very irregular.—In treating this complicated, and dangerous case, I began with dropping

ping the Thebaic Tincture into the eye: at the same time, directing the application of three leeches to each temple, a large blister to the head, and a strong purge to be taken the next morning, the following day the pain in his head was somewhat abated: but still the matter collected in the aqueous humour, was as considerable as on the preceding day. The use of the Thebaic Tincture was repeated; and the pulse, being quick and full, pointed out the necessity of further bleeding; which was accordingly done, by taking ten ounces from the arm. The happy effect was, that on the third day, the quantity of matter collected in the left eye was evidently lessened, and the patient had so far the use of that eye, as to distinguish the light of a candle. The right eye then called for a more particular attention, since neither the Thebaic Tincture, nor any of the evacuations hitherto used, seemed to have made the least alteration for the better, as to any of the complaints which attended it. The leeches were therefore again applied to that temple, and afterwards a blister to the
same

same part. The day following, that eye, as well as the other, became much easier. But the matter behind the Cornea still remained to be visible in both ; while the Tunica Conjunctiva likewise continued in a state of considerable inflammation. Bleeding was then repeated by the mode of scarifying ; which was performed with a lancet on the inside of both the lids ; and, in this way, about fifteen or twenty drops were taken from each eye. The use of the Thebaic Tincture was continued every night and morning to both eyes ; and, in the event, was always found to administer considerable relief. On the sixth day, the quantity of matter in both eyes ; but particularly in the left, was apparently much diminished. The sight of that eye was gradually improving ; and the right eye also then began to perceive the light. Notwithstanding all this amendment, the pulse yet continued to be quick and full ; and, at times, the patient felt much pain in his head. Ten ounces more of blood were therefore taken from the arm. Linen cloths, wet with the Aqua Saturnina, were

were occasionally applied to both eyes, for the purpose of moistening and cooling them ; while febrifuge and opening medicines were taken internally. In a fortnight, without further or different treatment than the continued use of the Thebaic Tincture, the whole of the purulent matter, except that which adhered to the Iris of the right eye, was dispersed. This it did not seem possible either to remove or lessen ; but, resisting all the applications which had been made or could be thought of, in the case, it at length formed a thick brown speck ; in consequence of which, the contraction and irregularity of the pupil became fixed, and the Iris was incapable of those different movements, according to the degree of light communicated, which are of the last importance to perfect vision. Still, however, the following very important effects were accomplished : in about a month, both the eyes were entirely cured of the inflammation : the sight of the left eye was perfectly recovered ; and that of the right to such a degree, as to be rendered very useful.

CASE V.

*Application of Sugar successful in a Case of
Hypopion accompanying an Ophthalmy.*

Miss W. about 10 years of age, was put under my care, on account of an inflammation of one of her eyes, which, though slight in appearance, had totally deprived it of the power of vision, and was accompanied with the deposition of a white fluid at the bottom of the anterior chamber of the aqueous humour. Evacuations by leeches and blisters had repeatedly been employed; the Thebaic Tincture had daily been dropped on the eye for above a week; and all the usual remedies, to remove inflammation, had been tried, without occasioning the least diminution in the quantity of the effused matter, or the least amendment of sight. The patient being of an irritable temper, was unfortunately too old to be managed by force, and too young to be convinced by argument;

argument; in consequence of which the eye could not be examined in a satisfactory manner, and the removal of the effused matter by an operation was utterly impracticable. Recollecting the good effects that have been supposed to be produced by the application of the powder of sugar, in cases where there had been an opaque matter effused between the lamina of the Cornea, it was thought advisable to make a trial of its power in the present case. A small portion of it was taken on the end of an instrument, that resembled the handle of a tea spoon, and was dropped immediately upon the Cornea, and this was repeated three times every day. The good effects produced by the sugar much exceeded my expectations. In the course of only three days, the quantity of effused matter was considerably diminished; and within a fortnight, without the use of any other remedy than an occasional purge, the whole of it was absorbed, the pupil became round and clear, and the sight was perfectly restored.

CASE VI.

An Hypopion consequent on an Ophthalmy, and requiring an Operation, to discharge the Matter effused in the Aqueous Humour.

Mr. C. a stout young man, about 25 years of age, applied to me, by the recommendation of Messrs. Loveday and Grover, surgeons at Hammersmith, on account of an inflammation of the left eye, which had continued three weeks, notwithstanding very vigorous means had been employed to subdue it; at the time I was consulted, being accompanied with a speck at the bottom of the Cornea, evidently produced by the deposition of a purulent coloured fluid, in the anterior chamber of the aqueous humour. The eye was wholly deprived of the power of vision; and the patient had a constant uneasy sensation, both in the eye and head, though it did not amount to acute pain. There was not any visible ulceration in the

Cornea

Cornea itself, and the quantity of matter effused, did not seem so considerable as to render its absorption improbable. Although, therefore, the antiphlogistic plan of treatment had been pursued, to a considerable extent, I thought it necessary to take away eight ounces more of blood, by venesection in the arm; to give the patient a mercurial purge; and to wash his eye frequently with a lotion, composed of the Aqua Ammoniaë Acetataë, and Aqua Florum Sambuci. I dropped some powdered sugar upon the eye, and advised it to be repeated two or three times in the course of every day. After three days I again saw the patient, and could not discover the least alteration in the quantity of effused matter, or in the power of vision; but the inflammation of the Tunica Conjunctiva was somewhat diminished. I now opened the vein that passes on the left side of the nose, and took from it about four ounces of blood; and a blister was directed to be applied over the whole summit of the head. The application of the sugar and of the lotion was continued as before. These additional reme-

dies did not produce any essential alteration in the state of the eye, I therefore advised the operation of discharging the effused matter; and the patient giving his consent, I made an incision through the inferior part of the Cornea, with a knife somewhat narrower than that which is employed in the operation of extracting the Cataract. The whole of the matter came away immediately, together with the aqueous humour, leaving the appearance of the eye as perfect as if it had not suffered any injury. The antiphlogistic plan of treatment was steadily pursued, and a compress wet with the cooling lotion, before mentioned, was kept constantly upon the eye. When I examined the eye, about three days after the operation, I suspected there was a fresh accumulation of matter; but by pursuing the plan of treatment above-mentioned, this matter was absorbed, the uneasiness in the head and eye wholly ceased, the inflammation gradually subsided, and the eye perfectly recovered the power of vision.

CASE VII.

Weakness of Sight, resembling that produced by an Ophthalmy, without visible imperfection in the Eye, much relieved by Leeches.

In the year 1797, Mrs. C. a lady about 30 years of age, who had lately returned from the East Indies, applied to me on account of an extreme weakness of sight, which was accompanied with a considerable degree of general debility, and appeared to be occasioned by her having bred children very fast in a hot climate. On an accurate examination, I could not perceive the least defect in the appearance of either eye. Suspecting, however, that there might be some degree of acrimony in the secretion of the ciliary glands, I applied the citrine ointment to the edges of the eye-lids, two or three days in succession, as in common cases of the Psorophthally, but it did not afford her any assistance. On extending my inquiries

inquiries relative to her health, I was informed, that on different occasions in the early part of her life, when her eyes felt uneasy, she had experienced more relief from the application of leeches, than from any other remedy. Notwithstanding her weak state, and the total absence of inflammation, I therefore recommended her to put two leeches on each temple; to apply a small blister behind or rather above one of the ears, every three or four days; and, as cold applications were very uncomfortable to her eyes, to apply to them, morning and evening, the corner of her handkerchief dipped in camomile tea, as hot as it could be pleasantly borne, wiping the lids dry after it was used, and embrocating them, as well as the temples and forehead, afterwards, with an infusion of elder flowers in camphorated spirit. With this advice the lady left me, and went into Hampshire; and in about a month she wrote to inform me that the leeches had afforded her immediate relief, and had several times been repeated; that the hot camomile tea was a very grateful application,

and her eyes were become quite strong during the day, experiencing only a very small weakness when she exposed them to a strong light or worked or read much by candle light.

CASE VIII.

Dimness of Sight, accompanying a slight Ophthalmia, cured by Leeches, &c.

Mrs. M. who resided near Feversham, in Kent, a thin delicate looking woman, about 50 years of age, applied to me in August 1798, on account of a great dimness in the sight of the right eye, accompanied with a slight appearance of inflammation. The sight of the left eye had been lost some years, and its blindness was occasioned by a violent inflammation, which had left a total opacity and projection of the Cornea. On inquiring, I was informed that she was almost always troubled with a slight cough, and was subject to frequent inflammations in her lungs. From hence I was
led

led to suspect that the dimness, at present so alarming to her, was produced by the inflammatory disposition in her habit, though it did not shew itself by any high degree of inflammation in the part affected. I took away, therefore, a small quantity of blood by scarifying the lower right eye-lid, and she experienced an amendment in her sight almost immediately. I repeated it the following day, and gave her a weak saturnine lotion, made clear by the addition of a few drops of the muriatic acid, with a recommendation to apply it to the eyes frequently. This afforded her further relief, but the sight of the right eye was still dim. I now desired that three leeches might be applied on each temple. They bled copiously, and the inflammation was afterwards much diminished. The red præcipitate ointment was applied to the eye-lid every morning, being carefully wiped off immediately afterwards. The leeches were repeated after three days, and afterwards the inflammation entirely disappeared, and the sight became quite clear.

CASE IX.

Dimness of Sight, with a slight degree of Ophthalmia, cured by large Evacuations; and followed by an extraordinary change in the Sight from Presbytic to Myopic.

In the year 1798, I met Sir Walter Farquhar to consider the case of a lady, about 50 years of age, who came from the neighbourhood of Lynn, in Norfolk, in much distress of mind, on account of a very considerable mist which she constantly perceived before the right eye. The sight of her left eye had been long imperfect; and the present dimness of the right eye, which had continued a fortnight, followed a cold which affected her head, but had not produced any considerable inflammation of the eye itself. She appeared to be a strong healthy woman, but had suffered much anxiety, shortly before the dimness of sight came on, in consequence of the illness of a
near

near relation. On account of the depressed state of her spirits, she had taken volatile medicines ; but these had evidently produced a disagreeable heat on the skin, and rather an increase of the dimness. When Sir Walter Farquhar and I first met on this case, the lady's pulse was rather strong, and her countenance oppressed ; but there was not any whiteness of the tongue, and the pupil of the eye did not alter its size, when examined in different degrees of light. In this instance there seemed to be some room for hesitating, whether the dimness proceeded from nervous debility, or from an inflammatory diathesis. The increase of symptoms, which seemed to follow the use of volatile medicines, inclined us to adopt the latter of these opinions ; and it was determined to employ an antiphlogistic course of treatment. I immediately opened the vein that passed on the right side of the nose, and took from it four ounces of blood ; four grains of calomel were given her, and a purging mixture was prescribed to be taken, cochleatim, every two hours, until the bowels were moved.

Animal

Animal food, and wine of all sorts, were prohibited; and she was desired to avoid a strong light, and every exertion that was likely to stimulate the eyes unduly. Three times in the day the eye was fomented with weak brandy and water; and the red præcipitate ointment was applied at bed time. On the following day, no great difference was discovered in the appearance of the eye, but the sight was not worse. A large blister was now applied on her back, and a draught, composed of the infusion of roses, with two scruples of the magnesia vitriolata, was ordered to be given three times in the day. The blister excited a very considerable degree of strangury, which was taken off by the free use of gum arabic in the common emulsion. The third day her countenance was more open, and the patient acknowledged that the dimness of sight was not quite so considerable. The abstemious mode of living was still pursued; the saline draught, in a state of effervescence, was substituted for the infusion of roses with salts; and the hot brandy and water was still frequently applied to her eyes in the course of the

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the day. In a week the mist was removed; but the pupil continued of one fixed size in all degrees of light. A decoction of the Cortex Peruvianus, mixed with the Sal Polychrestus, was now prescribed in place of the saline draughts, and light animal food was permitted to be taken once in the day. Shortly after this time the lady went into the country, the right eye being perfectly free from any defect of sight;—but this eye had undergone a very considerable and extraordinary change; since, instead of receiving benefit from convex glasses, which she had before found necessary to enable her to read and see near objects, she could see near objects without such aid; and, on the contrary, distant objects appeared so confused, that she was obliged to make use of a concave glass of the 6th number that are sold in the shops, whenever she wished to make such objects appear distinctly.

CASE X.

Weakness of Sight, with Pain in the Head, and falling of the upper Eye-lid, without visible Ophthalmy, cured by Leeches.

A few years ago, a young lady, about 20 years of age, came under my care, on account of such an extreme weakness of sight, that she could not bear either the light of the day, or that which is given by candles, without extreme uneasiness; and her eye-lids fell constantly so low over the eyes, that the Cornea was scarcely visible, at any time, without the application of the finger to raise them. This was accompanied with a constant pain in the head, which was particularly severe in one spot over the forehead, which the patient could cover with the end of her finger. The debility and pain had continued many weeks, and was supposed to have been occasioned by too close application to minute painting: the young lady
having

having excelled so much in this art, as to have been honoured by the gift of several medals from public societies of artists. Her countenance, with the exception of the fall of the eye-lids, denoted perfect health; there was no humour on any part of the skin; her pulse was good; and all the evacuations were continued in the most regular manner. The application of the citrine ointment afforded no kind of relief. Electricity, though applied in the mildest manner, increased the weakness, and made her head more painful. Strengthening remedies, and strengthening applications of various kinds, had been tried under the directions of an eminent physician, as well as under my own, without affording the smallest relief. It was at one time suspected that some disease might exist in that particular part of the head, which the young lady described as suffering most on every accession of light to the eyes; and in consultation with Dr. Saunders, it was agreed to make a circular incision upon this part, quite through the pericranium, and sufficiently large to include

the whole that was described as suffering the chief pain. A portion of integuments, nearly as large as a half crown piece, was accordingly removed; but no morbid appearance was discovered either in the pericranium or cranium. The young lady, however, experienced much ease after the operation; her eye-lids opened more widely, and the access of light did not give so much pain. She continued better about a week; but after this time the pain and weakness returned in a degree quite equal to that she had before experienced. It was now suspected, that the relief she had received from the operation was chiefly occasioned by the loss of blood that attended it. It was therefore agreed to apply three or four leeches on the hollow part of each temple. This was accordingly done, and it afforded her immediate ease, which lasted about three days; but then the pain in the head returned in nearly as great a degree as before. Six leeches were applied on the upper part of the forehead, and they again afforded great service. It being now in some measure ascertained, that relief

was

was only to be afforded by taking away blood from some part near the seat of the disease, six, eight, and sometimes ten leeches were applied, either on the forehead or temples, once or twice every week, for the space of eight or ten weeks; the relief after each application being always considerable, and the pain in the head, with the weakness of sight, and the falling of the eye-lids, gradually amending; and in about three months, without the use of any other remedy, these distressing symptoms were all removed; and the young lady became quite free from pain, and perfectly recovered the use of her eyes.

CASE XI.

Peculiar Opacity of the Cornea, consequent on an Ophthalmy which commenced whilst under the use of Mercurial Medicines.

In the year 1795, I was desired to attend a daughter of Mr. P. in Carey-street, about

six years old, on account of a violent inflammation in both her eyes, which was accompanied with much pain, and a total inability to open the eye-lids. The inflammation was attributed to a cold, which the young lady caught during the time she was taking a mercurial medicine to prepare her for the small pox. The precipitate ointment, with the fomentation made with poppy heads, were found very useful to give her ease; and after clearing her bowels, I ordered the decoction of the Cortex Peruvianus, with a few grains of the Sal Polychrestus, to be given her twice in the day. By this treatment the painful part of the inflammation was soon removed, and the eyes became sufficiently strong to allow me to examine the state of the Cornea. I now discovered this tunic, in both eyes, to be universally clouded with a dewy moisture, which seemed to transude continually through its pores; and it occasioned the Cornea to appear much flatter than it usually is when in an undiseased state. I directed a saturnine lotion to be applied instead of the fomentation made with
poppy

poppy heads, and afterwards changed this for a vitriolic lotion ; but neither of them made any alteration in the appearance of the Cornea. I then added four grains of the powder of alum to a very weak saturnine lotion, and directed a little of it to be dropped upon the eye, three or four times in the day. This, though ill applied, in the course of a week, seemed to make a favourable change in the appearance of the Cornea. I was therefore encouraged to pursue the plan ; and in addition to it, once in the day, I dropped on the eye a small quantity of a powder, composed of one part of alum, and nine parts of fine sugar. From this she certainly derived considerable service, and in a short time was able to discover the colours of the carpet, and shortly afterwards, to read large letters. She now was sent to the sea side, where the same plan of treatment was pursued, and after a few weeks she returned to town, having recovered a perfect sight with both eyes.

CASE XII.

Opacity in the Cornea of each Eye, without any previous Ophthalmia.

Miss L. the daughter of an eminent physician, about 18 years of age, was brought to me in October 1791, on account of a dulness in the appearance of the Cornea of the left eye, which rendered vision indistinct, and had not been preceded by any degree either of pain or inflammation in the Tunica Conjunctiva. On examining the eye, I perceived a considerable number of minute spots, which resembled drops of dew, that overspread the greater part of the Cornea; and on looking at the right eye, I perceived one of a similar kind, precisely in the centre of the Cornea, and not larger than a very small pin's head. The patient was a very delicate young lady, and I was informed that the menstrual evacuation was both deficient in quantity, and irregular in its time of returning.

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In this instance it seemed necessary to preserve two objects in view, first, to support the strength of the constitution, and secondly, to promote the absorption of the effused lymph. To accomplish these purposes, it was agreed to give her a steel medicine twice in the day, and one sixteenth of a grain of Hydrargyrus Muriatus every night. Three leeches were directed to be applied to the left temple, and a blister behind the ear on that side. The Unguentum Hydrargyri Nitrati was applied to the edges of the eye-lids once in the day, and the eyes were immersed, morning and evening, in an eye-glass filled with warm water, to which were added ten drops of a mixture containing one grain of the Hydrargyrus Muriatus, with four drops of the muriatic acid, and an ounce of distilled water. These remedies were continued a week: at the end of which time the dulness of the left Cornea was evidently diminished, and the vision of objects somewhat more distinct. The former advice was repeated, and directions were given to apply three more leeches on the left temple. In another week
the

the small opaque spot was completely removed from the right Cornea, and the dulness of the left Cornea continued to diminish. The leeches were applied four different times, and, at the end of a month, her general health was much improved, and both the eyes were perfectly restored to their natural appearance and use.

CASE XIII.

Opacity of the Cornea of each Eye, with enlarged vessels on its surface, consequent upon an Ophthalmia.

On the 19th of June 1798, Mr. P. of Gravesend, about 20 years of age, applied to me on account of a great dulness of the left Cornea, accompanied with blood vessels visibly advancing upon this coat from the Conjunctiva, and with a slight general inflammation in this last mentioned tunic. The Tinctura Thebaica had been applied to his eye in the country, and different other applications had been employed, without

without affording him any relief. I directed five leeches to be applied immediately to the left temple, a large blister on the head, a saline draught with a scruple of Sal Polychrestus to be given three times in the day, and the eye to be frequently washed with a weak saturnine aluminous lotion. On the 23d, (which was the first time that I could obtain a good sight of the eye, in consequence of its peculiar irritability, and the small space between the eye-lids,) I observed nearly on the centre of the Cornea, a small bloody extravasation. Five leeches were again applied on the left temple. On the 26th, the bloody speck on the Cornea appeared to be diminished. July 4th, the amendment was very considerable; the speck being less, and the preternatural vessels on the Cornea much contracted in size. July 6th, the right eye began to be affected precisely in the same manner that the left eye had before been attacked. The sight became dim, the Cornea had a visibly dull look, and some blood vessels seemed to advance from the Conjunctiva beyond the rim of the Cornea. In

this eye, as well as in the former, I should have been inclined to remove a portion of the Conjunctiva, all round the Cornea, so as to cut off the communication of the morbid vessels on the Cornea with the other part of the Conjunctiva, if the irritability of the eye had not been so considerable. This alone formed a powerful objection to the operation; and when added to the thickness of the eye-lids, together with the smallness of the space between the upper and lower, when they were widened as far as was possible, it rendered such an operation, in a great measure, impracticable. I directed five leeches to be applied to the right temple, and another large blister on the top of the head. July 8th, three more leeches were applied on the right temple. July 10th, the sight of both eyes was extremely dull, but the opacity in the Cornea appeared to be somewhat diminished. I applied daily to the edges of the eye-lids a little of the red præcipitate ointment, and dropped on the Cornea a few drops of a mixture of a scruple of Calomel, in half an ounce of elder-flower water. The saturnine
aluminous

aluminous lotion was continued as before. July 13th, three leeches were again applied to each temple. July 17th, the left eye appeared to be much improved in the power of vision. July 24th, the amendment continued. July 27th, the leeches were again applied to the right temple. August 6th, the left Cornea was very nearly clear, and the right had but few blood vessels upon it. He now returned to the country, with directions to repeat the application of the leeches every four or five days; to continue the use of the saturnine aluminous lotion, with that of the red præcipitate ointment; and to avoid every thing in his diet, that could produce heat or inflammation.

CASE XIV.

Opacity of the Cornea of both Eyes, with a very slight degree of Ophthalmij, consequent on a Typhus Fever, and cured by an Operation.

In the latter part of the year 1796, I was desired to meet Doctor Cook, to consider

the case of a young lady, fifteen years of age, who had had a low fever for a considerable time, and, on recovering from it, perceived the sight of her left eye to be very imperfect, though it had not been preceded by either pain or inflammation. On examining the eye, I observed a slight opacity, extending over the whole Cornea, with the appearance of minute drops of water, that seemed to transude through the pores of this tunic. Although the fever, at the time I was consulted, was removed, the patient was then so weak, that it was thought necessary to continue the use of the Peruvian bark, which had been already given nearly a fortnight; and she was recommended to wash the eye three or four times in the day with an aluminous lotion. At the end of a week I saw the patient again, and though the opacity was not then diminished, it did not appear either to Doctor Cook, or me, to be increased. The same treatment was, therefore, directed for another week; but at the end of this time, as no amendment was visible, I advised to blow the powder of fine sugar, mixed with

with one-tenth part of alum, upon the eye once in the day, and to wash it frequently by means of an eye-glass, with a weak solution of the Hydrargyrus Muriatus. These applications were continued for a third week; but, at the end of this time, the opacity in the inferior part of the Cornea, instead of diminishing, was evidently increased, and near to this part several vessels of an enlarged size were observed in the Tunica Conjunctiva. The young lady was still free from pain, and did not experience any considerable weakness in the eye. Three leeches were now applied on the left temple; the use of the bark was continued on account of her general debility; and the other applications were made to the eye as before. After the bleeding with leeches, the enlarged vessels on the Conjunctiva appeared to be somewhat diminished, but the opacity not only remained, but was become so considerable, that, with this eye, the patient could not distinguish one finger from another. It now occurred to me, that the opacity did not extend through the whole thickness of the Cornea, but was rather an af-
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fection of the membrane which is continued over the Cornea from the Conjunctiva, in like manner as the Epidermis is continued over the true skin in other parts of the body. The opacity, however, seemed to be connected with a morbid state of the blood vessels of the Tunica Conjunctiva, since these were much enlarged on that side where the opacity was greatest, and some of them advanced on the Cornea beyond the line of separation between the two tunics. Having this idea of the disorder, I submitted to the physician, the propriety of removing a portion of the enlarged vessels of the Conjunctiva, in order that the communication, which the blood had, through them, to the opacity in the Cornea, might be cut off; and the proposal being approved by him, it was stated to the young lady and her friends, who giving their consent, I performed the operation in the following manner:—A portion of the Conjunctiva was embraced between the blades of a forceps, that had a small ring at its termination, and, being thus fully secured, I cut it off with
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a pair of curved scissars, taking in about one-sixteenth of an inch of this tunic from before backward, and as much of it in a direction parallel to the circumference of the Cornea as I was able to include. I repeated the process, in the same manner, as often as was necessary to make a complete section round the Cornea, the universal dulness of this tunic giving reason to apprehend that the vessels were morbidly affected in every direction. The operation gave the patient, who was singularly timid, much less pain than she expected, and the eye was afterwards covered with a compress, dipped in a weak saturnine lotion. On the following day the eye felt sore, but was very little inflamed. The saturnine lotion was continued about three days; but afterwards it was changed for a weak solution of the Hydrargyrus Muriatus. Within a week, the opacity in the inferior part of the Cornea was considerably diminished; and, a few days afterwards, a return of transparency was observed round the whole circumference of this coat; its central part, however, being still so completely

completely opaque, that the pupil could scarcely be seen through it, and of course the patient being still unable to perceive any sort of object. After this time, the opacity continued to diminish gradually, without requiring any other alteration in the treatment, than that of occasionally applying some powdered sugar. The progress of amendment was regularly from the circumference to the centre; the central part being opaque long after the transparency was perfectly restored near its circumference. The whole of the Cornea, however, became quite clear in the course of a few weeks. But—just at the time when this was accomplished, the sight of the right eye, which, till now, had been strong and clear, became dim, without any marks of inflammation in the Conjunctiva, or of opacity in the Cornea; and after a few days, a slight cloud began to shew itself in the inferior part of this last mentioned tunic. Three leeches were immediately applied to the hollow part of the right temple; and the same kind of remedies were made use of to this eye, as had been applied to the other.

other. No amendment was observed, however, after they had been used several days; on the contrary, some blood vessels round the Cornea became enlarged, and the opacity increased rapidly; a dewy look being soon discovered on its surface, similar to that which had been perceived, at the beginning of the disorder, on the surface of the Cornea of the other eye. The Tunica Conjunctiva became also more generally inflamed than in the former instance. On this account I repeated the application of the leeches, and scarified the inside of the eyelids with the point of a lancet; by which means the inflammation was somewhat abated, but the opacity and dewy look of the Cornea continued to increase. Encouraged by the success which attended the performance of the operation, above-described, on the left eye, I proposed to repeat it on this also. The young lady would not consent for several days; but, at length, the blindness became so considerable, that she agreed to submit to it. In performing it, I made use of the forceps and scissars as on the former occasion. The operation seemed

seemed to give more pain than it did on the left eye ; and when I had carried the division of the Conjunctiva round the inferior part of the Cornea, I could not prevail on the patient to permit me to carry it round the superior part. A compress wet with a saturnine lotion was applied over the eye, and plain saline draughts were given her for two or three days ; but, after this, they were mixed with a decoction of the Cortex Peruvianus, on account of her general debility. The inflammation that followed this operation, though far from affording alarm, was greater than on the former occasion ; on which account I scarified the inside of the lower eye-lids, three or four times within the following week. In about a fortnight, the lower part of the right Cornea, particularly near its rim, began to assume its natural polish, its upper and middle part still remaining white and dewy. In another week, the improvement in its appearance was so considerable, and seemed so evidently to be occasioned by the last operation, that I prevailed on the patient to allow
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me, in a similar manner, to divide the vessels on the upper part of the Conjunctiva. The inflammation was now much less than that which followed the division of vessels, in the inferior part of the Conjunctiva of this eye. Within a fortnight after this time, we had the satisfaction to see, not only the transparency in the inferior part of the Cornea advanced nearly to its centre, but a similar transparency commencing round the upper circumference of the Cornea, under that part from whence I had last removed a portion of the Conjunctiva. A weak saturnine lotion, cleared by the muriatic acid, in the proportion of three drops of the acid to two ounces of the lotion, was regularly applied to both eyes, three or four times every day; and once in that time, two or three drops of a mixture of one scruple of calomel, in half an ounce of elder-flower water, were dropped upon the eye. No particular attention, after this, became necessary; and in about three weeks from the time of the last operation, the patient perfectly recovered the sight of both her eyes; both the Corneas hav-

ing resumed their natural transparency, without shewing the least vestige of opacity in any part of either of them.

Remarks on the preceding Case.

The principal circumstance which claims our notice in the preceding case, is that of the Cornea becoming universally opaque, without any considerable inflammation, either preceding, or accompanying, this change in its structure. The Cornea is composed of many laminæ, placed one over another, and its external lamina is formed by a transparent membrane continued from the Tunica Conjunctiva. In a state of disease, this membrane often becomes visible, by means of the blood vessels that are continued from one of these tunics to the other; and it not unfrequently is raised on different parts of the Cornea, in the form of vessications, which are sometimes transparent, and at other times filled with a purulent fluid. This membrane is the part which, in the case above-mentioned, became universally

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sally opaque ; and as soon as I perceived the blood vessels of the Conjunctiva advancing upon the opacity in the Cornea, it occurred to me, that if I could cut off the supply of blood from one of these parts to the other, the diseased action upon the Cornea might probably be stopped, the opaque particles be cast off, and the surface under them resume that degree of transparency, which was necessary to allow the rays of light to pass through it. To accomplish this object, it seemed requisite not only to divide the vessels that surrounded the Cornea, but to remove a small portion from each of them ; since, without this last part of the operation, the vessels would have united again after their division, and the design in view would, of course, have failed of success. The event justified my expectation ; and as a proof that the amendment was produced by the operation, the reader will take notice, that it was performed on the right eye at two different times, only the inferior part of the Cornea being surrounded on the first occasion ; and this half was the only part
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that resumed its transparency; the other half remained perfectly opaque, until it was surrounded in a similar manner by a subsequent operation.—As I do not recollect to have seen any case similar to the preceding, described by authors on this subject, and as several of the same kind having fallen under my observation, I beg leave to lay before the reader two more, which were relieved by an operation of a like kind.—I wish it to be remembered, however, that all the cases in which it has been successful, were unaccompanied with any active inflammation. In a case of this last kind, I once saw it increase the inflammation considerably. Such active inflammations are sometimes accompanied by a similar dewy appearance of the Cornea; but they are best relieved by the repeated use of leeches, and other evacuating remedies, together with sedative applications to the eye itself.

CASE XV.

*Universal Opacity of the Corneas of both Eyes,
similar to the preceding, without previous
Ophthalmy.*

Miss S. of Greenwich, was advised to apply to me, by Mr. Mills of that place, in the latter end of August 1797, on account of a great deficiency in the sight of the right eye, which was accompanied with so small a degree of inflammation in the Tunica Conjunctiva, that it was scarcely perceptible. It had gradually increased for about a fortnight; and at the time I saw her, there was an evident dulness in the appearance of the Cornea. The patient could not be said to enjoy a bad state of health; but, although she was eighteen years of age, the menstrual evacuation had never been regular, and her bowels were very apt to be costive. Believing the affection of the eye to depend much on these circumstances,

I prescribed

I prescribed three leeches to be applied to the right temple, a draught composed of Gum Myrrh, mixed with Kali and Ferrum Vitriolatum, to be given three times in the day, gentle purgative medicines to be administered when necessary, and the eye to be frequently washed with a weak solution of the Hydrargyrus Murriatus. A little powdered sugar was also dropped upon her eye, once in the day, with a view to stimulate the absorbents, to take up any portion of lymph that might be extravasated in the substance of the Cornea. These remedies were continued a fortnight without occasioning any improvement in her sight; and, towards the latter part of this time, a redness was discovered in the inferior part of the Cornea, which much resembled an extravasation of blood in the substance of this tunic. The redness seemed to have a connection with some enlarged vessels in the inferior part of the Tunica Conjunctiva, on which account I was induced to recommend a division of the vessels, in the way that has been described in the preceding case, by taking them up with a forceps, and

and removing a portion of them with a curved pair of scissars. This operation was performed on the 20th of September. It did not give great pain, nor was any considerable inflammation excited by it; but more than a fortnight elapsed before the patient was sensible of any improvement in her sight. On the 9th of October, however, I was able confidently to say, that the inferior part of the Cornea began to assume its natural polish; and I had the satisfaction to hear that the menstrual evacuation had returned in an increased quantity. The young lady was still insensible of any amendment in her sight, and the central part of the Cornea remained as opaque as it was at the time of the operation. Three times in the day I advised her to apply a weak solution of Hydrargyrus Muriatus warm to the eye, in an eye-glass; and once in that time a little powdered sugar was dropped upon the eye. On the 17th, the transparency of the Cornea was so much increased that the inferior part of the pupil became visible; and, after this, the amendment advanced rapidly, and, in

a short time, the Cornea became quite clear, and the vision perfect.—In the beginning of the following November, the patient caught a violent cold, which was followed with a considerable soreness in the throat. These continued several days, and as they went off, she began, for the first time, to perceive that the sight of her left eye was imperfect. As there was not then any inflammation in the Conjunctiva, and no alteration was visible in the Cornea, I only advised her to wash her eye with a weak solution of Hydrargyrus Muriatus, similar to that she had used to the other eye; and as she had uneasiness from a tooth on the same side, which tooth I observed to be decayed, I desired that it might be extracted; but its removal made no favourable change in the state of her sight. On the contrary, the obscurity of the Cornea increased, the Conjunctiva became slightly inflamed, and the eye watery. Her menstruation also continued very defective. Three leeches were applied to her left temple; her feet were put into warm water every evening; and the draughts composed of Gum Myrrh, Kali, and Ferrum

Ferrum Vitriolatum, were again administered. The leeches were several times repeated, and I repeatedly scarified the inside of the eye-lids; but, notwithstanding this, the opacity increased, and the Cornea, in a short time, appeared, as had before happened to the right eye, to have a dew constantly lodged upon its surface, which completely hindered vision. The right eye, however, continued perfectly well. On the 5th of December, as the imperfection in vision, with the left eye, still continued in the same state as before, I performed the operation of removing a portion of the Conjunctiva, round the whole circumference of this Cornea, in the same manner in which I had before removed it in the other. It occasioned no great increase of inflammation, and the weak sublimate lotion was still applied. Three weeks elapsed afterwards, before I could be certain of any amendment in the appearance of the Cornea. I then began to observe a transparency, with a small degree of the natural polish, round the rim of the Cornea. This slowly increased; the solution of Hydrargyrus Muriatus

was still continued ; and powdered sugar, mixed with one tenth part of Calomel, was occasionally dropped on the eye. In about a week, the sides of the pupil were plainly visible through the Cornea ; and in about six weeks the whole of the opaque matter was absorbed, and the left eye, as well as the right, recovered its perfect appearance and use.

CASE XVI.

Universal opacity of the Cornea of both Eyes, preceded by the use of Mercurial Medicines, and accompanied with only a small degree of Ophthalmia, cured by an Operation.

Mr. M. about 30 years of age, applied to me in July 1801, on account of a great opacity in the Cornea of the right eye, in the upper part of which there appeared to be an effusion of blood, and over the whole of the tunic, a dewy appearance, which entirely deprived the eye of sight. He appeared at that time to be
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in perfect health, but a short time before the present disorder commenced, had been under the necessity of taking mercurial medicines, which seemed fully to have answered the purpose for which they were used. The Tunica Conjunctiva was very slightly inflamed, and had never been more affected than when I first saw him. The patient being a friend of Mr. Cline, I met this gentleman in consultation, and, after carefully considering together, all the circumstances of the case, it was thought advisable, by both of us, to recommend the removal of a portion of the Conjunctiva round the circumference of the Cornea, in the same way in which it had been done in the two preceding cases. The operation was immediately performed, and did not seem to give the patient much pain; but three days afterwards, the Tunica Conjunctiva became considerably thickened. A weak saturnine lotion was frequently applied, and in less than a week, the tumefaction subsided. The opacity of the Cornea, however, did not appear in the least diminished; and now the Cornea of the left eye

eye began to be affected in a way precisely similar to that in which the Cornea of the right eye had before been attacked; the sight becoming extremely obscure. The patient, who was a medical man, being greatly alarmed by this discovery, and fully convinced of the propriety of the operation, that had been performed on the right eye, was very desirous of having it repeated on the left eye, entertaining a hope that it would arrest the progress of the opacity. I was not willing, however, to perform it, so long as his sight continued tolerably good; but, in the course of another week, the sight of the left eye became so very obscure, that it was not without difficulty, he was able to find his way from his lodging in Southwark, to my house in New Bridge-street. I, therefore, now divided the vessels round the left Cornea, precisely in the same manner in which I had before divided those round the right Cornea. The operation did not occasion any considerable inflammation; and the defect of sight for several days appeared to be stationary. About
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ten days after the first operation, I thought I saw a degree of transparency round the circumference of the right Cornea, but the colour was so obscure, that I could not be quite certain, whether it was a real transparency of the Cornea, allowing an imperfect view of the Iris through it, or a continuation of new blood vessels, from the rim of the Conjunctiva. There being very little inflammation in the eye, the saturnine lotion was changed for a weak solution of the Hydrargyrus Muriatus. In another fortnight the transparency of the right Cornea had increased so much, in its progress from the circumference towards the centre, that on one side I could plainly perceive through it, a portion of the pupil. I every day dropped into the eye, some powdered sugar, after anointing the edges of the eye-lids with an ointment, which I have before-mentioned, formed of red præcipitate and butter. A similar treatment was made use of to the left eye, and leeches were repeatedly applied to the left temple; but though the progress of amendment in the right eye, was visible, almost

most from day to day, the centre of the Cornea of the left eye, became considerably more opaque after the operation was performed upon it, and the whole of the Cornea for a fortnight, was so very misty, that if the patient had not recovered the sight of the right eye, he would not have been able to distinguish even the largest objects. About the middle of September, the right Cornea was become so clear, that, with this eye, he was able to distinguish letters of a moderate size; and I now perceived round the circumference of the left Cornea, a smooth polish, quite different from the dewy appearance of its centre, and which I hoped to be a return of its natural transparency. I had still, however, a great suspicion that small blood vessels were creeping over this part of the Cornea, from the Conjunctiva. But in a few days, I became perfectly easy on this subject, since I plainly perceived, in the uppermost part of the Cornea, that the colour of the Iris was visible through it. Three more leeches were applied to the left temple, on account of the remaining inflammation in
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this eye; and the ointment and sugar were daily applied, as before, together with the weak solution of Hydrargyrus Muriatus. The progress of amendment in this eye, was much slower than it had been in the right eye. The same means, however, were steadily pursued, and the leeches were regularly applied every four or five days. On the 5th of October, I took my leave of the patient, and he returned to his home in a distant county, having perfectly recovered the sight of the right eye; and the Cornea of the left eye being evidently more transparent round its circumference, although its centre was still so opaque that the pupil was scarcely visible through it. On the 12th of November he made another visit to London, and then I had the pleasure of seeing the left Cornea nearly as transparent as the right; and of hearing that he enjoyed a perfect sight with both eyes. He had steadily persevered in the use of all the applications that were employed whilst he was in London, during the time he had been absent in the country.

CASE XVII.

Great dimness in the Sight of both Eyes, preceded by Muscæ Volitantes, and accompanied with a slight Ophthalmia, cured by a Fumigation of Eyebright and Plantain Leaves.

A lady, about 55 years of age, in the year 1787, was attacked with a severe pain in the head, for which, after having used a variety of remedies without success, she was recommended to try the effects of sea air and sea bathing. But she had not been many days on the sea coast, before an inflammation began in both her eyes; and this rapidly increasing, she soon returned to London for the aid of medical advice. She was here confined to a dark room several weeks; and when the inflammation abated, she was distressed by the imaginary appearance of a considerable number of black moats or marks, (usually called muscæ volitantes,) which constantly moved before her eyes,

eyes. In about six weeks the inflammation was subdued, and the lady recovered her usual sight; but the *muscæ volitantes* remained, and were particularly troublesome when the light was strong. She suffered no other inconvenience, however, from her eyes until the year 1793; when the left eye became again inflamed, but without giving her pain; and, in addition to the appearances above described, the sight of this eye became obscured with a thick mist. With a view to remove the inflammation she was bled with leeches on the temple, had a blister applied to her back, and took some strongly purgative medicines; after which, by the advice of a gentleman of eminence in the profession, she began to take a solution of the *Hydrargyrus Muriatus*, (which was given her once or twice every day,) and to make use of a yellow snuff, which appears to me to have contained a considerable proportion of the *Hydrargyrus Vitriolatus*. At the same time a variety of lotions were applied in succession to the eyes themselves. These remedies were steadily continued several weeks; but

but under the use of them, the dimness in the sight of the left eye greatly increased, and at length the patient was unable to distinguish with it any object whatever. The sight of the right eye, which had hitherto continued good, with the exception of the *muscæ volitantes*, began now to be affected, precisely in the same manner in which the other eye had been first attacked. In this period of the disorder, I was first desired to visit the lady; and I met, in consultation, Dr. Grieve, of Norfolk-street, and Mr. Thomson, Surgeon, at Woodford. Many of the blood vessels of both eyes, and particularly of the left, were at this time much enlarged; but the appearance they made was very different from that of a common Ophthalmia, the eye-lids as well as the eyes having a peculiarly dry but relaxed look, and both being wholly free from pain. The left Cornea had a deeply opaque spot in its inferior part, and a dulness over its whole extent; but the greater part of the pupil was perfectly visible, and the dulness in its appearance was insufficient to account for the total loss of sight in

this eye. The right Cornea had a similar dull look, but there was no defined opacity on one part more than on another. Both pupils were of the size which they usually have in a moderate light, and did not retain the smallest degree of power to dilate or contract. The near prospect of total blindness had not only much hurt the lady's spirits, but, joined with the weakening power of the medicines she had taken, had produced a considerable degree of general debility. Strengthening remedies* were administered internally; and a lotion composed of *Æther* and a weak solution of *Hydrargyrus Muriatus*, was recommended to be applied to both the eyes, three or four times every day. These, however, producing no sensible amendment were in a short time wholly omitted; and, in their stead,

* Among other medicines of this class she took the *Extractum Pulsatillæ, vel Anemonis Pratensis* of *Linnaeus*, by the particular recommendation of *Dr. Grieve*. This gentleman had a high opinion of its efficacy in cases of general weakness, and especially in those wherein the sight was affected. In the present instance, although it did no good to the eye, it seemed to increase the patient's strength and spirits.

the use of a fume, produced by burning a mixture of three parts of the herb Eyebright, and one part of Plantain leaves was adopted; which was applied about five minutes daily to each eye, by means of a machine somewhat similar to that with which the fume of Tobacco is injected in disorders of the *primæ viæ*. Internal medicines of all kinds were omitted, during its use, except a cupful of the infusion of Eyebright which the patient drank every morning fasting. For a short time a small proportion of Tobacco was mixed with the Eyebright, and Plantain; but the Tobacco was soon left out, being found to stimulate the eyes too powerfully. The immediate effect produced by the fumigation on the eye was that of a mild stimulus, by which means it excited for a short time a considerable flow of tears, but these soon ceased, and afterwards the eye always felt both lighter and easier. It was steadily continued two months before any considerable amendment took place in the patient's sight. The eye, last attacked, was the first to experience a favourable change; and
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in about four months she distinguished with it large letters. Eight months elapsed before the left eye began to see at all ; but in twelve, without any alteration in the mode of treatment, this like the other recovered its perfect sight. The redness of the Tunica Conjunctiva was now wholly subsided ; both the pupils were become clear ; and their power to dilate and contract in different degrees of light returned to the state in which they usually are when the eyes are quite well.

CASE XVIII.

An Ophthalmy consequent upon a Gonorrhæa.

A man, about the age of 28, having contracted a Gonorrhæa, put himself under the care of an apothecary ; who prescribed for him three grains of Calomel, with one of Camphor, to be taken every night. This was continued for a month, excepting some occasional intermissions,

missions, on account of the mouth becoming sore, as is the common effect of this medicine: when, instead of repeating the dose, gentle purges were given, for the purpose of carrying off the irritation complained of. After a month had elapsed, from the time when this medicine was first taken, it was then wholly laid aside; and, a gleety discharge from the Urethra still continuing, the Balsamum Copaivæ, with other similar medicines, were taken for another month. Toward the end of the second month, a small inflammation was first discovered in the inner angle of the right eye; and, in a few days more, the Tunica Conjunctiva, which lines the inside of the lids, as well as that part of it which covers the globe of the eye, was much swelled and inflamed. A physician was then called in, who prescribed a drachm of *Æthiops Mineralis*, to be given in a bolus, three times in a day, with half a pint of the decoction of Sarsaparil Root, after each bolus. This prescription was followed for three weeks; but, at the end of that time, so far was there from being any degree of amendment, that, on
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the contrary, the swelling and the inflammation were evidently much increased, and a purulent matter, in considerable quantity, was continually issuing from the eye. These appearances led the physician to consider the Ophthalmy as properly venereal; and that it was justly to be attributed to the Gonorrhæa, which had preceded. He therefore thought it necessary, again to have recourse to mercurials; and, accordingly, directed one drachm of the Unguentum Mercuriale Fortius to be rubbed on the legs every night, and the inflamed eye to be frequently washed with a weak solution of Hydrargyrus Muriatus. At the end of a week, finding none of the common effects from the ointment, applied as above, he thought it expedient to order the use of it every morning, as well as night, and an increase of the quantity, from a drachm to a drachm and a half. This was repeated for three days; at the end of which, he discovered the same inflammatory disposition in the left eye, which had been perceived in the right at the beginning of the disorder. The day fol-

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lowing,

lowing, the inflammation in the left eye, was much increased; and the Cornea of the right eye appeared wholly opaque. Then it was, that my late partner, Mr. Wathen, and myself were sent for; and, after a very particular and most careful examination of both eyes, the following appeared to be the state of them. The Cornea of the right eye was not only opaque, but also ruptured; and through the wound, visible on its surface, we could plainly discover the projection of a small substance, of a blackish hue, as is not unusually seen in cases of this nature; and which, from its similar appearance to the head of a common fly, is spoken of by authors, under the name of *Myocephalus*. The Tunica Conjunctiva of the left eye was swelled, and, though not much inflamed, was covered with purulent matter. The gums of the patient were also much swelled; and his pulse was a little quickened, but not so full as common; both which were to be attributed to the mercurial medicines that had been administered. It was now become too evident, from the long use which
had

had been made of these kinds of medicine, that no good was to be expected from them ; and it was therefore agreed wholly to lay them aside. And, that no effects of the mercurial preparations might remain behind, the legs were washed, to clear them from all remains of the mercurial ointment, and the flannel waistcoat and drawers, which had been worn during the preceding course, were removed, and new ones substituted in their place. Having used these precautions, the first application then was to the lower lids of each eye, which were immediately scarified with a common lancet. In consequence of this, several drops of blood issued from them ; the whole of a paler colour, than we may well suppose it would have been, before any mercurials had been used. The Thebaic Tincture was then dropped into each eye, three leeches were applied to the hollow of each temple, and a large blister was put on the back. The diluted Aqua Camphorata of Bates's Dispensatory was ordered for an eye-water ; with which, the matter issuing from his eyes was to be washed

off, once every hour, or oftener, if necessary: and, the next morning, a purge was given him consisting of twenty-five grains of Jalap, with an infusion of Senna. For several days, the eyes still continued to discharge a large quantity of purulent matter; on which account, the lower lids were again scarified, the two following mornings: and the Thebaic Tincture was constantly dropped into the eyes twice every day. On the fourth day, another purge was administered; and on the fifth, a large blister was again applied to the back. At this time, the eyes were so weak, as not to admit the smallest degree of light without great pain; for which reason the shutters of the windows were kept almost entirely closed. On the seventh day, another purge of the same kind was given; which, as well as the former, had all their proper effects: and then it was, for the first time, that the mercurial effects, which had taken place on the gums, appeared to be considerably abated as well as the discharge from the eyes. The oppression, however, which nature still lay under, indicated the

the

the need of further evacuations ; and the success, which was now found to attend them, afforded no small encouragement to their continued use. Accordingly, in the course of another week, three leeches were again applied to each temple ; and to vary the mode of bleeding, for the purpose of obtaining more easily a larger quantity, cupping-glasses were applied to the nape of the neck ; by which six ounces were extracted. A blister was also afterwards applied on the same part. The whole of these means had the happiest influence, which could be expected, in diminishing, at the same time, both the discharge and the inflammation. The projection on the Cornea of the right eye was then touched every other day, with the Lunar Caustic ; care being taken to wash the eye well with water immediately after every application of it. Once on each of the intermediate days, the citrine ointment was also applied to the edges of the lids ; and they were every night covered with thick compresses, well wetted with the camphorated eye-water. No further alteration was neces-

sary in the treatment of this case; nor was any other application used, but that of the Thebaic Tincture twice a day, for about the space of a month, from the time when the case came under our care. By this time the patient was able to return to his business having preserved the perfect sight of the left eye; and the projection upon the Cornea of the right eye being also removed, though, from the state in which we found it at our first attendance, it seemed to be rendered impossible, that the patient should ever again see through it.*

* I regret that I was not acquainted with the efficacy of the Succus Lactucæ Sessilis, recommended in a note, page 79, at the time I attended the case above related; as I have reason to believe it would have afforded the patient speedy and essential service.—I have also reason to think, that, in some similar cases, advantage has been obtained from washing the eyes frequently and largely, with a mixture of about one-eighth part of brandy, and seven-eighths of common water.

CASE XIX.

*Another case of Ophthalmy consequent upon a
Gonorrhæa.*

In the year 1799, I was desired to meet a surgeon in London, to consult on the case of a gentleman who had been ten days under his care, on account of a violent inflammation of both eyes, of the kind called Chemo-sis, which was accompanied with an immense discharge of purulent matter, and had been preceded by a slight Gonorrhæa. The patient had been bled in the arm four or five times, had had a great number of leeches applied on the temples, and the eyes had been largely scarified several days in succession. Notwithstanding this vigorous treatment, the Cornea of the right eye was burst; and it was so universally opaque, that no part either of the iris or pupil could be seen through it. The

Cornea

Cornea of the left eye was perfect; but the Conjunctiva was considerably swelled, as well as inflamed, and the purulent discharge that continued to issue from both eyes, was profuse. His pulse being still strong, eight ounces more of blood were taken from his arm; a large blister was applied on the head; and he was desired to wash his eyes frequently either with cold water, or with a weak vitriolic lotion. The blood that was taken away had a thick white buff on its crassamentum, but the proportion of serum was very considerable, and the evacuating treatment had been carried to so great an extent, that I could not think it right to continue it further. The gentleman who first attended the case, having, however, a different opinion on the subject, a third surgeon was called in. At this time, a whiteness began to appear on the inner side of the left Cornea; and the Conjunctiva, though much swelled, had a pale languid look. In this consultation it was agreed to give him a grain of calomel joined with an opiate, every night at bed time; to give also a draught of
the

the plain decoction of Peruvian bark, four times in the day; to inject an emollient clyster every evening; and to wash his eyes simply with a solution of one grain of the Hydrargyri Muriatus in a pint of water. Two days afterwards we met again, at which time the Tunica Conjunctiva, though still much swelled and inflamed, had a less flabby look; and the whiteness on the side of the Cornea, though increased, began to separate in a slough; there being a marked line between the sound and diseased part of this tunic. In two days more, the ulcer on the Cornea appeared more clean, but it evidently penetrated through this tunic; and in it there was a visible protrusion of a small part of the iris. The greater part of the pupil appeared clear, but it was somewhat altered in its figure by this protrusion of the iris. The quantity of discharge from both eyes was diminished, and the general inflammation appeared less. In about a week after this time, the patient was removed from London to a small village in its neighbourhood, that he might have the benefit of a change
of

of air. He was now advised to try the effects of washing his eyes with lime-water, instead of the solution of the Hydrargyrus Muriatus ; but it was not found to agree so well with them ; and this latter lotion was therefore again employed. The inflammation gradually abated after this time, and the purulent discharge diminished ; the ulcer of the left Cornea closed ; the protruded part of the iris collapsed ; and the patient acquired, with this eye, a very tolerable degree of sight, notwithstanding the figure of the pupil was changed, having become irregularly oval, and having lost much of its power of dilating and contracting, in different degrees of light.

CASE XX.

An Ophthalmy occasioned by a Projection of Part of the Iris, through a Wound in the Cornea.

A boy, about twelve years of age, being at school, at Douay in Flanders, received a blow on the left eye, from some gravel which was thrown at him. He felt no inconvenience from the accident until the sixth day after; at which time, the eye became considerably inflamed, and very painful. A surgeon in the town of Douay was consulted, who took blood from the left temple by two leeches; poulticed the eye with a roasted apple; and used many other applications. When he had remained six weeks under the same care without relief, he was brought to London; having at that time so far lost the use of the affected eye, as not to be able to distinguish any object, even though placed near him. Mr. Wathen
and

and myself were then consulted. On examining the eye we plainly perceived upon the Cornea, a little below the margin of the pupil, a dark coloured projection, about the eighth of an inch long; which though considerably larger, was not very dissimilar to that noticed in the last case; and there described as resembling the head of a fly. This projection appeared to be caused, by a part of the Iris having forced itself through a wound in the Cornea. Not more than half the pupil could be seen; its lower half being covered, by a film on that part of the Cornea which was contiguous to the projection: while the Tunica Conjunctiva, also, yet remained in a state of great inflammation.—We thought it necessary that the patient should lose more blood, and that it should be taken, as before, from the left temple; because that was nearest to the seat of the disorder. Accordingly, three more leeches were applied to the same temple: after which a blister was also laid on that part. Having prepared the way by these evacuations, the Thebaic Tincture was applied to

to the eye, by one drop at a time, once a day for three days successively ; but without any effect, in abating either the inflammation or the pain. This put us on the still further expedient, of touching the projecting part by a caustic application, sufficiently strong to destroy it ; the projecting part, by rubbing unequally against the inner surface of the eye-lids, appearing to be the principal cause of keeping up the inflammation, with all its attendant symptoms. The Lunar Caustic was made choice of for this purpose. It was carefully applied to the whole surface of the projection ; and immediately after it, two or three drops of water were dropped into the eye, to counteract its influence, if it should accidentally have reached too far. Notwithstanding every precaution in the manner of using the caustic, the pain it occasioned was severe : but, upon the application of the Thebaic Tincture, it soon subsided. In the course of the same day, the eye was frequently washed with the Aqua Vegeto-mineralis ; and, the next morning there appeared to be some reduction, both
in

in the size of the projection, and the degree of the inflammation. The Lunar Caustic was now re-applied in the same manner as before, and gave much less pain: and being continued, with the other applications, every day for a fortnight, the Ophthalmy was quite removed. And notwithstanding the difference of appearance in the eye of the patient from a perfectly sound one, in consequence of the partial opacity of the Cornea, and the immoveable adherence of the Iris to it, he yet recovered a very useful sight.

CASE XXI.

*An Ophthalmy, in which the Hydrargyrus Mur-
riatus was taken inwardly with good Effect.*

A man, about 35 years of age, was suddenly seized with a pain in his right eye, which, in almost the same instant of time, was extended across the crown of the head, and communicated with the back of it. The pain increased so rapidly, and in so violent a degree, that, in the space of four hours, he wholly lost the
sight

sight of that eye which was the seat of it; and became also, by intervals, quite delirious. Under the direction of some of the faculty, to whom he first applied, he took a purge, and afterwards other medicines, and made use of different applications, both to the eye and head, for three days; but found no relief.— On the fourth, when I saw him, the Tunica Conjunctiva of the right eye appeared to be violently inflamed; and the pain, which the patient had felt from his first attack, was so great, as entirely to deprive him of sleep ever since. The case was then treated as follows. Three leeches were immediately applied to the temple nearest to the seat of the disorder; and afterwards a blister was put on the same part. The inflammation, at this time, rose so high, and had made the eye so extremely irritable, which was manifest from the fiery redness diffused over it, as to forbid the present use of the Thebaic Tincture externally. And all that could be ventured on, at present, was, supposing the pain to continue equally violent after
the

the leeches had been applied, to order that twenty-five drops of the Tincture should be taken inwardly, on the patient's going to bed. This was done. But, on the following day, neither the inflammation nor the pain were in the smallest degree abated. Ten ounces of blood were then taken from his arm: after which, trial was made of the Thebaic Tincture externally, by dropping a single drop of it into the eye. The effect of this application was, that, after causing the eye to smart severely for a few minutes, it procured the patient a small degree of ease. But this was only temporary; for, on the evening of the same day, the pain returned with its usual violence. Fomentations of poppy heads, as warm as the eye could bear them, had been frequently applied, and were continued at this time; but, being found to afford no manner of relief, the use of them was laid aside; and in place of them was substituted a linen bolster on the eye, wetted, and kept in the state of moistness, with equal parts of brandy and water. This had some effect.

effect. But the benefit derived from it, on the third day from first using it, appeared to be so inconsiderable, while the pulse also still continued to be so full and quick; that it was then thought necessary to take ten ounces more of blood from the arm: and, the same symptoms of inflammation continuing to appear, the same operation of bleeding, and in the same quantity, was repeated no less than five times in nine days. These bleedings were accompanied with a large blister on the crown of the head, which was kept open a week; while mild laxatives were also taken, for the purpose of procuring regular stools. During the use of these evacuations, the patient, for the most part, felt much less pain than before; though sometimes, and particularly towards the evening, it returned, and in a very sudden manner, with great violence, both in the head and temple. This rendered the free use of opiates occasionally necessary, for the ease of the patient. Still the Tunica Conjunctiva was highly inflamed; and so it continued to be, even at the distance of three weeks from the

first attack: on which account, as well as the frequent return of pain which attended it, and which none of the methods, hitherto used, had been found sufficient to remove, it was then thought proper to introduce the use of the Hydrargyrus Muriatus; of which, accordingly, trial was made, by taking the quantity of a quarter of grain every night; and, during the use of it, half a drachm of Red Bark, three times a day: continuing, all along, the external use of the Thebaic Tincture, and the wetted compresses, as before-mentioned; from which the patient always found some temporary relief. He had taken the Sublimate and Red Bark but three days, before the pain in the head entirely left him; and in the space of a week, the inflammation in the eye was also considerably abated. After the use of both the Sublimate and Bark for ten days, the former was discontinued for one day; but even in that short time, the pain in the head returned with violence. The use of the Sublimate was, therefore, again resumed; and it was assisted by warm gruel, of which he took a
pint

pint with every dose. Thus administered, the Sublimate had the effect of producing a very free perspiration; in consequence of which, the pain was again removed. It was then continued a fortnight longer, while the Bark was omitted. Neither the pain returning, during the time; nor any other symptoms of the disorder appearing at the end of it; the use of all medicine and other applications was then wholly laid aside: and, from that time, the patient continued quite well, and has had as perfect a sight, with the eye which was disordered, as with the other.

CASE XXII.

A Case of Ophthalmy, in which the Symptoms intermitted with great regularity, much relieved by the internal use of the Hydrargyrus Muriatus.

Mrs. —, about 45 years of age, whose menses for many months had been very irregular, was attacked, in June last, with a violent inflammation in both her eyes. This appeared to be the consequence of a cold, which she caught during the continuance of a rash on her skin. The gentleman who first attended her applied five leeches to her temples, and a large blister on her back. He also directed one drop of the Thebaic Tincture to be dropped into her eyes once or twice in the course of the day, and prescribed, in succession, a great variety of eye-waters. These, with many internal remedies, were employed with great perseverance, for a considerable time,

time, without producing any lasting amendment. After the disorder had continued six weeks, it began to intermit; and both the inflammation and pain (which last not only affected her eyes but her whole head) became every other day much more violent than on the intervening day. The fit usually began about one o'clock in the morning, and continued till eleven or twelve at noon. In consequence of this change in the state of the disorder, the patient's apothecary now administered the Peruvian bark; which medicine he at first gave in a decoction, but afterwards in powder, and in the dose of a drachm, repeated every second hour. The use of the bark was continued only a few days, before the Ophthalmy became more violent; and the pain, almost at all times, was equally severe. Her pulse being both quick and strong, and the fever constantly very considerable, it was now thought indispensably necessary to omit the bark, and to take ten ounces of blood from her arm. The next day, when I saw her for the first time, her pulse, notwithstanding
this

this loss of blood, continued still so full, and the inflammation in her eyes was still so considerable, that I thought it further necessary to propose the application of three leeches to each temple, and afterwards of blisters, the size of half a crown, over the same parts. I also recommended a saline draught, to be administered every eight hours; and, once in the day, previous to the application of the Thebaic Tincture to the eyes, which was still continued, I annointed the edges of the lids, by means of a camel's hair pencil, with the Unguentum Hydrargyri Nitrati warmed before a candle. I was led to the use of this ointment by the appearance of the lids, the edges of which were red and sore; and this circumstance inclined me to suspect that the ciliary glands secreted an acrimonious fluid, which continued to keep up the irritation of the eyes. In a few days, in consequence of pursuing this plan, both the fever and the inflammation were much abated. But the disorder now began again to assume an intermittent type. The Decoctum Corticis Peru-

viani was therefore directed to be given instead of the saline draughts, and to each dose a scruple of the Sal Polychrestus was added. Together with these, a large blister was ordered to be applied over the whole crown of the head. The blister produced a considerable discharge, which seemed greatly to relieve both the head and eyes. But, notwithstanding the temporary benefit thus produced, the pain and inflammation returned about twelve o'clock the following night with great severity, and continued, without any abatement, between six and seven hours; after which, they again went off, and left the patient tolerably easy. From this time she continued in a state of apparent amendment, during the whole both of that day, and of the next, and till six o'clock on the third morning, when both the pain and inflammation returned with their usual violence, and continued, without any alleviation, till between one and two in the afternoon, at which time they again abated as before. The intermission of the symptoms being now established in the completest manner, and the
power

power of the bark having been formerly tried without producing any amendment, I proposed, on the seventh of July, to administer the Corrosive Sublimate in the dose of a quarter of a grain every night. This being approved, it was dissolved in half an ounce of spirit of cinnamon, and, being mixed with a draught of the Decoctum Corticis above-mentioned, was given to the patient at bed-time. The paroxysm of pain returned with its usual violence on the ninth and eleventh instant ; on each of which days the fit began six hours later than on the day of the preceding fit. I now desired that the bark draughts, of which she took two in the course of the day, might be given alone, and that the solution of the Sublimate, which had before been taken in one of these draughts, might be increased to half a grain, and administered after she was in bed, in a basin of warm gruel. July the 13th, the fit was considerably less severe, and continued a much shorter time. On the 15th, it was so slight as scarcely to be perceived. After this time, her amendment advanced with great rapidity;

rapidity ; and in the course of a few days, the Ophthalmy was totally subdued, the sight restored, and the pain entirely removed both from the head and eyes. In the course of the cure, the Thebaic Tincture and Unguentum Hydrargyri Nitrati were regularly applied every day in the manner above-mentioned ; cloths wet with the Thebaic Tincture were frequently laid over the eyes ; and occasionally the whole head was fomented with a strong decoction of poppyheads.*

* After the cure above related, the eyes of the patient continued well until the end of September following. About this time, some new symptoms appeared, which caused a suspicion that a venereal poison lurked in her constitution. The symptoms, however, by no means afforded a proof of the existence of this as their cause ; and it is probable that it would not have been suspected, if some similar symptoms had not shewn themselves in the husband at the same time. In order to remove these, the patient was put under a course of mercurial alterative medicines. The particulars of this course it is not necessary for me to specify. It is sufficient to say, that during the use of these medicines she had no return of the inflammation in her eye, and in the end obtained a perfect cure.

CASE XXIII.

A Case somewhat resembling the two last, in which, after the use of Evacuant Remedies, the Hydrargyrus Muriatus afforded great assistance;—with an account of the appearance of an Eye that had been blind many Years, on dissection after death;—and Remarks deduced from it.

Mr. —, a lusty man, about 50 years of age, was attacked with an inflammation in the right eye, which was soon followed by a violent pain over the whole head, as well as in the part that was first affected. The pain was not equally great at all times. It returned at uncertain periods, but chiefly in the night; and for several days before I saw him, the eye had been totally deprived of sight. In this case, after the free use of evacuating remedies, which did not afford the assistance expected from them, very striking relief was obtained
by

by administering the Hydrargyrus Muriatus in the manner recommended in the preceding pages. After the patient had taken a few doses of it, the pain abated, and in a short time the inflammation subsided, and the sight of the eye was completely restored.

It deserves notice, that the patient had been deprived of the sight of the left eye eight years before he was attacked with the inflammation above described in the right eye. The sight of this eye was lost gradually; the blindness being neither preceded by, nor accompanied with, either pain or inflammation; and the progress of the disorder was so slow, that two years elapsed before the eye was totally dark. The sight first became dim during the time that the patient had an intermittent fever; which fever continued a considerable time, notwithstanding large quantities both of the Peruvian bark, and of many other medicines had been administered. And when at length the sense of vision, after many fruitless attempts to preserve it, was wholly lost, the blindness was attributed to an insensibility of
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the retina, and all hopes of recovering it were relinquished, both by the patient and by his friends, many years before the inflammation took place in the other eye. At the commencement of this inflammation, which was the first time of my being consulted, I could not perceive that the pupil of the left eye, which eye had been blind eight years, was more dilated than the pupil of the right eye; but it had lost its power to dilate and contract in different degrees of light, and had a peculiar dull look, very different from that of an opaque crystalline, either in an incipient or confirmed state, and of that kind which I have not unfrequently observed in other cases, where the sight was wholly lost. The left eye continued perfectly free both from pain and inflammation, during the whole time that these were most violent in the opposite eye. But within a week after they were removed from the right eye, the patient was detained above an hour, in a cold windy evening, in an open church-yard; and, in consequence of this, the very next day an inflammation took place in
the

the left eye, which, as I have just observed, though blind, had never before suffered from this cause. The pain in the head again returned, and was particularly severe over the left orbit; from whence it seemed to shoot through the eye into the cheek on that side. Its violence, exactly in the same manner as happened when the right eye was inflamed, was greatly increased on the approach of evening; and for many successive nights the patient was unable to procure either sleep or ease. In consequence of this, during the day he was remarkably drowsy. Evacuating remedies were again employed, the Sublimate was again administered, and the power of Opium, and of various other remedies, was again tried with a view to relieve the pain; but all without success. The external inflammation was sometimes a little abated, but the pain continued; and at the end of about three weeks from the last attack, shortly after the patient had eat a light supper, he suddenly lost the use of the left side. In three days after this, his speech failed, and his other side became useless.

less. Convulsions soon followed; and in four days more he died.

On opening the head, which was performed in presence of Mr. Hunter and Mr. Home, we found that the ventricles of the brain were distended by a considerable quantity of clear pellucid water. The optic nerves, and all the other parts within the cranium, appeared free from disease. The different coats and humours of the right eye were perfect. On cutting through the sclerotica of the left eye, the chorides was found to lie close to this coat, and appeared to be distended in the usual way by the retina, and the humours that are placed within it. But on making a puncture through the choroides, about the middle of the space between the rim of the Cornea and the entrance of the Optic nerve, a yellow coloured fluid, as thin as water, immediately escaped through the wound; and on enlarging the incision, the retina was found to be collapsed, and to resemble a cone of a white colour, the apex of which was at the entrance of the Optic nerve, and its basis round the
circumference

circumference of the crystalline humour. This humour, which could not now be accurately distinguished from the parts contiguous to it, seemed to adhere to its capsule, and the capsule to the posterior surface of the Iris; and their did not appear to remain the smallest vestige of the vitreous humour.

I do not remember, in any author, to have met with the description of a case in which the immediate cause of blindness was similar to that which has just been related; and I recollect only one instance, in which the appearance on dissection bore a resemblance to it. This was in the case of a young lady about six years old, who gradually lost the sight of the left eye, in consequence of the formation of a white substance in the posterior part of the vitreous humour. The whiteness was perceptible through the pupil, in some particular positions of the head, but not in all. It continued without producing any other change in the appearance of the eye for many months. At length the eye began to enlarge; soon after which its natural shape was destroyed,

stroyed, and the tumour assumed a carcinomatous appearance. When the tumour had advanced thus far, it was thought advisable, in a consultation with several gentlemen of the profession, to extirpate it entirely; and the operation was performed with great accuracy and care; but notwithstanding this, in the course of a few weeks, the tumour discovered a tendency to regenerate; and in a short time it grew again to its former size, being now accompanied with an enlargement of the left parotid, and of many other glands on that side of the face and neck. An appearance was now also discovered in the pupil of the right eye, similar to that which had been perceived, at the beginning of the disorder, in the pupil of the left eye. But here it advanced no further than to be perceptible as a white substance in the posterior part of the vitreous humour, and this only in particular positions of the head, when the young lady died; having previously suffered most violent pain in the whole head, and particularly on its left side.—On opening the head, a thick sanious fluid was
found

found collected between the cranium and dura mater, not only on the inside of the left orbital process of the os frontis (which process was carious, and its surface much jagged,) but also on the inside of the os occipitis, a little inclined to the right side, where it occupied a space nearly as large as a crown piece. The bone here also was discovered to be very rough and jagged, and it appeared to be indented by the pressure of the confined matter. The quantity of water collected in the ventricles of the brain, was considerably greater than is usually here found; and several small hydatids were observed on the plexus choroides. The cavity of the left orbit was filled with the excrescence above described. The right eye did not appear to be enlarged; but on cutting through its tunics, almost the whole space, usually occupied by the vitreous humour, was found to be filled by a steatomatous substance which, in general, was of a white colour, but in some few places was red and bloody. When this substance was removed, a white smooth tumour was discovered behind it, perfectly

distinct from the steatomatous substance above mentioned, and appearing to be a morbid alteration in the state of the Tunica Retina itself. The Tunica Choroides had very little of the Nigrum Pigmentum spread over its surface. The crystalline humour, as well as its capsule, was perfectly transparent; and the optic nerve, and every other part connected with the eye, appeared to be in a healthful state.

In this case, notwithstanding the morbid change above described in the Tunica Retina, and in the vitreous humour, it is remarkable, that the eye preserved a considerable degree of sight even till the time of the young lady's death.

CASE XXIV.

Inflammation of the Iris, with irregular Figure of the Pupil, much relieved by an Operation.

Mr. G. of Fenchurch-street, put himself under my care, in the year 1791, on account
of

of an inflammation of the left eye, which externally did not appear considerable, but had occasioned him violent pain in the head as well as the eye, and almost entirely deprived the eye of sight. He had repeatedly been blooded with leeches, had had a blister applied on the head, and had taken the solution of Hydrargyrus Muriatus freely. By these means the pain was considerably diminished, but the Pupil continued very irregular in its shape, appeared very cloudy, and had wholly lost the power of dilating and contracting; the Iris, also, having assumed a greenish brown colour. On a minute examination, I perceived some large vessels lying under the Conjunctiva, at a considerable distance from the Cornea, which seemed to terminate abruptly and penetrate the sclerotic coat; and it occurred to me to be probable, that these vessels might pass through this tunic, and supply the choroid coat with blood, from whence a portion of it might be continued to the inflamed Iris. I therefore removed the Conjunctiva that lay over the enlarged vessels with a pair of curved scissars, after taking it up

between the blades of a ring forceps, and then divided the vessels themselves transversely with the point of a sharp lancet. A considerable hæmorrhage followed the operation; and in a few days it became evident that the operation fully answered my wishes. The Pupil became perceptibly more round; the Iris resumed its natural colour; and the vision of the patient became distinct and clear.

CASE XXV.

Inflammation of the Iris accompanied with Pain;—with a Remark on similar Cases.

In the year 1797, Mr. —, about 30 years of age, applied to me on account of a dull inflammation in one of his eyes, which had very nearly deprived it of sight. A few months previous to this time he had had a venereal complaint, for which he had been under the care of an eminent physician, who employed for its cure a large quantity of mercurial medicines,
in

in consequence of which, all the venereal symptoms disappeared, and he had thought himself quite well, at least two months before the Ophthalmy commenced. The pain in the right eye, however, was so much worse during the night than in the day, that a cause of this kind was still suspected to exist in the habit. A quarter of a grain of Hydrargyrus Muriatus dissolved in spirits, and mixed with a basin of water gruel, was directed to be taken at bed time, and the eye to be fomented with the decoction of poppyheads several times in the course of the day. He took the medicine two nights in succession; but did not experience any relief or ease from it; on the contrary, the pain became more severe, and scarcely left him during the whole of the day. The inflammation of the eye also became more considerable, and the Iris assumed a greenish colour, having evidently a pustule on its inner edge that formed the rim of the Pupil. The case became now truly alarming, and very vigorous measures were necessary to avert the impending mischief. Six leeches were applied on the
hollow

hollow part of the temple, and a large blister over the whole of the head. His bowels being open, a common saline draught was the only medicine that was administered; and it was repeated every six hours. From these remedies he experienced some degree of ease, and in two days the inflammation seemed a little abated. Six more leeches were now again applied on the same temple, and the draughts were continued. After this he became evidently better, and the greenish colour of the Iris diminished. The pain being abated, he washed his eye with a weak saturnine lotion, instead of using the poppy fomentation; and the saline draughts were changed for a decoction of the Cortex Peruviana, with each dose of which a scruple of Sal Polychrest was added. In about a fortnight the inflammation was wholly subdued, the Iris resumed its natural colour, the appearance of a pustule on this tunic ceased, and the patient's sight became perfect.

Remarks.

Remarks on the preceding Case.

A great number of cases have come under my notice, which bear a close resemblance to that which has here been described. In some of these evident venereal symptoms accompanied the inflammation of the eye; and in these the solution of the Hydrargyrus Muria-
tus produced the most decidedly good effects. In others, where all these symptoms had subsided, and the patient was much debilitated by the treatment to which he had submitted, I have found the powder of Sarsaparil, joined with the compound decoction of this root, very useful medicines; and in all, when a speedy change in the state of the disorder was indispensably necessary, as in the preceding case, a large blister on the head has produced the most beneficial effects. The different modes of removing blood by leeches on the temples, by scarifying the inside of the eyelids, and by opening the vein that passes on the side of the nose, are all occasionally proper; nor ought I to omit that, when one or
more

more large vessels are observed to pass over the Conjunctiva, and seem to dip through the sclerotic coat, to supply the Choroides and Iris with blood, as in the 24th case, a division of these vessels has produced an immediate change in the colour of the Iris, and an evident amendment in the figure of the Pupil.

CASE XXVI.

Irritable Inflammation of the Tunica Conjunctiva, in a supposed gouty habit, followed by an Inflammation of the Iris.

Mr. —, of Lincoln's Inn, about 22 years of age, applied to me in the year 1802, on account of an inflammation of the left eye, which followed a gonorrhæa, but was not accompanied with the usual purulent discharge from the eye. The eye, however, was in great pain, and had a very angry irritable appearance. He had for several days been under the care of a physician, who had repeatedly blood-

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ed him, both from the arm, and by the application of leeches on the temples, and he had given him powerful purgative medicines. When I first saw him his pulse was weak and irritable, and on inquiring, I found that, though he was a young man, he had had several attacks of pain in his feet, that much resembled those of the gout. I applied the præcipitate ointment with the calomel lotion to the eye, and recommended a free use of the decoction of poppy heads as a fomentation. On the following day, finding his eye still very painful and much inflamed, it was agreed, in consultation with his physician, to apply three more leeches on each temple; and on the third day, I took away about four ounces of blood from the vein that passes on the side of the nose. His eye was somewhat relieved by these evacuations, and by the saline medicines, and low diet, that were prescribed for him: but about this time a diarrhœa came on that weakened him considerably. The Mithridate, with chalk Julep, checked the diarrhœa; and stools afterwards were procured when necessary,

cessary, by the injection of clysters. Animal food, with weak wine and water, were allowed him once in the day. I now tried the effect of Laudanum applied to his eye, which still continued extremely weak and irritable; but it stimulated too powerfully, and afterwards his sight was thought to be more dim than before. On a minute examination at this time, I perceived the Iris to have assumed a green appearance, and on the edge to the aperture of the pupil, there was evidently a small pustule. Upon this discovery, a large blister was immediately applied on the top of the head, half a drachm of the powder of Sarsaparil was ordered to be given in a cup of milk, twice or three times in the course of the day, and a lotion, composed of one part of Aqua Ammoniæ Acetatæ, with three parts of elder-flower water, and a small proportion of Laudanum, was directed to be frequently applied to the eye. In three days the sight was much improved; the green colour of the Iris was visibly diminished; and in about a week the pustule on the edge of the pupil very nearly disappeared.

appeared. Without any change in the treatment afterwards, his eye became soon quite well, and his sight was perfectly restored.

CASE XXVII.

Violent Inflammation of the right Eye, in a weakly Person, after repeated Courses of Mercurial Medicines.

In the year 1797, I was desired to meet a physician and surgeon, to consider the case of a young gentleman, who, having gone through repeated courses of mercury for venereal disorders, and having been much debilitated by the effects they produced, had had repeated attacks of inflammation in his eyes; and at the time I was consulted, had the right eye so violently inflamed, that the smallest degree of light gave him exquisite pain, and he was unable to distinguish with it, any object whatever. The eye was so irritable that it was extremely difficult to procure a sight of it; but,

but, on the best examination I was able to make, the pupil appeared to be dull and confused. In this state of the disorder it was thought necessary to apply a large blister over the head ; to give a quarter of a grain of the Hydrargyrus Muriatus, dissolved in half an ounce of spirits, and mixed in a basin of gruel, every night at bed time ; and a cupful of the compound decoction of Sarsaparil two or three times in the course of the day. The blister was immediately applied ; but the patient could not be prevailed on to take either the solution or decoction. His eye was kept perfectly quiet, and no application was used to it but cold water, or weak brandy and water. Under this simple treatment the inflammation gradually abated ; and the amendment could only be attributed to the action of the blister ; which was not removed for forty-eight hours ; during the latter part of which time its smell became very offensive. The sore soon healed by the aid of the usual dressings ; after which another blister was applied on the same part ; and it was continued the same length

length

length of time as the former. No alteration was afterwards made in the treatment, and in about a fortnight the inflammation was removed, the pupil became clear, and the sight was perfectly restored.—About a month after this time the patient called upon me, being much alarmed by the appearance of an ulcer on the frænum, and a small wart near it, without any fresh cause to produce it. On this occasion, I thought it necessary to request a consultation with the gentlemen who had attended the patient before I was called in ; and after most maturely considering the weakly state of the patient, and the vigorous remedies that had previously been employed, we were unanimously of opinion it would be improper to proceed to a renewed use of mercury, and advised, on the contrary, to wait, and watch the progress of the ulcer. The consequence of this was, that in the course of a week, without any application being made to the wound but lint wet with spirits, it completely healed, the wart disappeared, and the patient became perfectly well.

CASE

CASE XXVIII.

An Ophthalmia with great dimness of Sight and much Pain, cured by the diluted Nitrous Acid, with Cicuta, &c.

In the year 1800, I was desired to meet a respectable surgeon, to consider the case of a lady, 45 years of age, who had an inflammation in the right eye, of some weeks continuance, which had a peculiar dull look, and was accompanied with great dimness in the sight, and considerable pain in the head. The Cornea of the left eye of this lady was totally opaque; and the sight had been lost some months, in consequence of an inflammation, which from the description that was given of it, I had reason to believe, was similar to that which now attacked the right eye, and which had resisted the most vigorous methods that could be thought of to remove it. At the time the left eye was inflamed, she had a very painful

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but

but small wound in her leg, which had also given her extreme pain, and with great difficulty had been cured. She had made use of a considerable quantity of mercurial medicines of different kinds, though there was not any reason to suppose that the disorder originated in a syphillitic cause. With these had been joined at different times the use of Sarsaparil, Bark, and Cicuta. The Tinctura Thebaica had been frequently applied to the eye, and always gave temporary ease; and the poppy fomentation as well as Saturnine applications, together with the powers of leeches and blisters, had often been tried. In this alarming state of the eye, it was agreed to give her the diluted nitric acid; of which medicine she took at first a drachm mixed with a quart of water, in the course of the day; and after four days, the quantity of the acid was increased to two drachms. With this she also took at bed time, a pill composed of four grains of the Succus Cicutæ Spissatus; and whenever the eye was in pain, she was directed to foment it with a strong decoction of poppy heads, mixed with

with a fourth part of brandy. The bowels were kept open by giving gently aperient medicines, when these were necessary. This plan of treatment was followed by a success which was much more expeditious than I had any reason to expect. In ten days the inflammation and pain were nearly removed, and the sight of the right eye became clear. The same remedies, however, were continued a fortnight longer; at the end of which time the eye became as strong and useful, in every respect, as it had been before the disorder commenced.

CASE XXIX.

An Ophthalmia accompanied with a deep and foul Ulcer in the Tunica Sclerotica.

In the year 1794, Mr. —, of the New Inn in the Strand, applied to me on account of an inflammation of the right eye, which had a very peculiar appearance. The whole of the Conjunctiva was much swelled, and the eye
was

was stiff and uneasy, but did not give violent pain. It did not water when exposed to the light, but had, on the contrary, a dry look; and round nearly the whole circumference of the Cornea, there was, in the thickened part of the Conjunctiva, a whiteness, differing much from the appearance of a pustule, and rather resembling that of cold tallow. My first advice was to apply three leeches on the hollow part of the temple, and afterwards a blister of the size of a half-crown on the same part; to pursue a strictly antiphlogistic regimen; and to drop into the eye once or twice in the day a drop of the Thebaic Tincture; but these remedies, after waiting several days, were not found to make a favourable change in the appearance of the eye. The whiteness of the Conjunctiva, on the contrary, became more prominent, particularly on that side of the Cornea next the temple. Having some doubts whether this prominent part did not contain a fluid, I made a small puncture into it with the point of a lancet; but no matter issued from the wound. The aperture in a few days spread considerably,

and became a very foul ulcer. I made particular inquiries into the previous health of the patient, but could not learn that he had had for many years any symptoms of a venereal disorder. The inflammation became now much more considerable than it was before the whiteness degenerated into an ulcer. On this account, I opened the vein that passes on the side of the nose, and took from it about five ounces of blood, the surface of the crassamentum of which appeared, when cold, of a thick buff colour. This induced me on the following day to take ten ounces of blood from his arm, which discovered equal marks of inflammation. Notwithstanding these evacuations the inflammation continued, and the ulcer spread; the latter becoming in a few days as large as a silver penny, and having a peculiarly foul appearance. Every morning I touched it with a probe armed with lint, and dipped in a solution of equal parts of Quicksilver and Hydrargyrus Muriatus in distilled vinegar,* and the whole

* This is one of the best phagedenic lotions, with which
I am

whole eye was fomented twice in the day, with a mixture of equal parts of hot brandy and water.

I am acquainted, and it was in high estimation by my late partner, Mr. Wathen, from whom I first derived my knowledge of it. It requires some accuracy in preparing it; I therefore beg leave to be particular in pointing out the mode in which it should be composed. Equal parts of Quicksilver and Hydrargyrus Muriatus should be rubbed together in a mortar, until they are formed into a grey powder and the quicksilver totally disappears. Half an ounce of this powder should then be put into a vial, and about half a pint of distilled vinegar be poured upon it. After remaining in combination twenty-four hours, during which time the vial should be frequently shaken, the clear part of the liquor is to be separated, and most probably will be fit for use. In order to ascertain that the lotion is well prepared, a few drops of it should be mixed with an equal quantity of the Aqua Ammoniaë. If this mixture become white, the lotion is proper to be employed; but if it become black, or continue transparent, it is not good, and cannot be depended upon. So long as whiteness is produced by the mixture of this lotion with the Aqua Ammoniaë, a fresh portion of distilled vinegar may be added to the powder, but the exact quantity of vinegar which the powder will impregnate cannot be ascertained, as it depends much on the strength of the vinegar. The lotion ought not to be used, however, unless it become white when mixed with the Aqua Ammoniaë.

I beg leave to add, that this application has sometimes been found of great use when applied to ulcers in the throat; not only when these have been produced by the Syphilis, but when they have accompanied the Febris Scarla-

water. Internally the patient took, morning and evening, half a grain of the Hydrargyrus Muriatus dissolved in half an ounce of Spiritus Nucis Moschatae, and mixed, at the time of taking it, in a basin of warm gruel; and twice in the twenty-four hours a draught was given him composed of the decoction and tincture of Cortex Peruvianus. He experienced very considerable relief within a few days after this plan of treatment was adopted. No alteration was afterwards made, except that of occasionally touching the wound with the Riga balsam instead of the mercurial solution above-mentioned; and in about three weeks the wound was healed; the inflammation and pain were wholly removed; and the sight was perfectly restored.

tina. It has been thought that this last mentioned fever not unfrequently begins in the throat, and is communicated from thence to the constitution. By curing the ulcers in the throat, therefore, by means of this lotion, it seems not improbable that the fever may be obviated, and that lives may sometimes be preserved.

CASE XXX.

Sudden and repeated attack of a sensation like that produced by the lodgement of a foreign particle between the Eye-lids and the Globe of the Eye, without any such cause to produce it.

A delicate lady, in a state of pregnancy, whilst walking in the streets of London, was suddenly attacked with a pain in one of her eyes, not unlike to that which is occasioned by the lodgement of a particle of dust under the eye-lid. It continued twenty-four hours before any medical advice was taken. At the end of this time the eye becoming considerably inflamed, I was desired to see her. I examined the Cornea, together with that part of the Conjunctiva that covers both the ball of the eye, and the inside of the eye-lid, not only with the naked eye, but through a magnifying glass of considerable power, and was not
able

able to discover the smallest foreign particle of any kind. The pain was at this time so considerable, that I not only dropped a drop of Thebaic Tincture into the eye, but thought it necessary to prescribe three leeches to be put immediately on her temple, and a saturnine lotion to be frequently applied to the eye. By these remedies she was much relieved from the painful sensation ; but on the third day it returned with still greater violence, and was accompanied with an almost constant efflux of hot tears. On the fourth it abated under the above treatment ; and on the fifth, it again returned. A draught composed of the powder and decoction of the Cortex Peruvianus was now given three times in the day, and the eye was fomented frequently with a strong decoction of poppy-heads. Under this treatment the pain was kept off till the eighth day, when it again returned, and in a still greater degree than on the former occasions. I now prescribed the following draught to be taken every four hours.

R. Confectionis

R. Confectionis Damocratis ʒj.

Decoct. Cort. Peruv. ʒjss.

Tinct. Valerian. Vol. ʒj.

M. F. haustus.

The poppy fomentation was continued, and care was taken to avoid costiveness by giving gently purgative medicines, as often as the state of the bowels rendered them necessary. The pain abated very soon after this alteration was adopted, and in a few days the inflammation was removed, and the lady became quite well.—About eight months after this time she had a return of a similar intermitting Ophthalmy, and it was cured by the use of the same remedies that had before been employed.

CASE XXXI.

*Sudden attack of Pain in the Eye, not unlike
to that last described.*

A gentleman about 50 years of age, was suddenly attacked whilst walking in the street,
with

with the sensation of dust in the eye, which was accompanied with a constant flow of tears, and so great a degree of debility in the upper eye-lid, that with much difficulty he found his way home. On the following day, as the sensation continued, I was consulted. At this time the eye appeared to be much inflamed, but after a careful examination, I was not able to perceive any kind of foreign substance either adherent to the Cornea, or between the eye and the eye-lid. Three leeches were applied to his temple, and the eye was fomented with a decoction of poppy-heads; but on the following day the pain was rather increased than diminished, his spirits being at this time much depressed, and his pulse rather feeble. On inquiring I was informed, that for some days previous to the attack of pain in the eye, he had experienced great anxiety of mind; and as the powder of Peruvian bark had been found useful in some former indispositions, he was very desirous of trying its power on this occasion. He took a drachm of it every two hours for three successive days; at the end
of

of which time, without any other external application than rose-water, the pain and inflammation were wholly removed, and the eye became quite well.

Remark on the last two Cases.

From the two preceding cases we learn, that sensations may be felt very similar to those that are occasioned by the insinuation of foreign particles between the eye and the eye-lid, without the existence of any such cause to produce them. Those persons who have been debilitated by anxiety, fatigue, or previous indisposition, seem most subject to such attacks. But though it be proper that surgeons should be apprized of these cases, it ought to be observed, that they are very rare when compared with the numerous instances, in which similar sensations are occasioned by the lodgement of foreign bodies under the eye-lid. Whenever, therefore, a description is given by a patient of the sudden attack of such a sensation, it is the duty of a surgeon minutely to examine the whole surface of the transparent Cornea, and of the Con-

junctiva

junctiva that lines both the inside of the eye-lids and the globe of the eye. Sometimes the interposed particle is so minute, that it is not easily discovered. On this account it is advisable to employ a magnifying glass, and to view the eye in different positions, before we decide that the painful sensation is not occasioned by such a cause.—It may not be without its use, if I remind the reader in this place, of the ease with which the inside of the upper eye-lid may be turned outward, so as to bring the foreign particle directly in view, when it is situated under this part. Embrace the eye-lashes between the finger and thumb of the left hand, and draw the lid outward; then make a slight pressure with the end of a probe, or some similar instrument, a little above the upper edge of the tarsus. In consequence of this, the inside of the lid will be easily turned out, and if a foreign particle be lodged on its internal surface, it will become visible, and may be wiped away, without difficulty, with a piece of wet lint wrapped round the end of a probe, and often with

with the end of the probe alone without such a guard.—I beg leave to add, that I have seen a teasing Ophthalmy kept up for a great length of time by a single eye-lash, so very minute that it was not visible without a magnifying glass, standing out of the line in which the lashes usually grow, and pointing inward so as but just to touch the ball of the eye. In one case of this kind, a lady had submitted for many months to a great variety of remedies, both internal and external, under professional men of considerable celebrity; and afterwards was cured almost in an instant, by the extraction of the offending lash, with a small pair of forceps. Another lash grew again afterwards in the same part, and this returned repeatedly every month or six weeks, producing similar uneasiness, but they were always extracted, in the same easy way, as soon as they appeared, and the uneasiness was at once removed by it.

The reader should also be apprised, that in gouty persons, cretaceous matter is sometimes deposited

deposited on the membrane that lines the eye-lid, which, when hard, and irregular in its shape, produces all the inconveniences that are occasioned by a foreign particle insinuated between the eye and the eye-lid. These inconveniences can only be removed by extracting the cretaceous matter, either with the point of a lancet, or with some similar instrument. The following is a remarkable case of this kind.

CASE XXXII.

An Ophthalmy produced by a Chalkstone deposited on the Membrane that lines the Inside of the upper Eye-lid.

The Rev. —, who had had repeated fits of the gout, was attacked with an inflammation of the right eye. Under the idea of its being a gouty complaint, it was left several days, without doing any thing for it. The pain, however, became at length so considerable, that

that it was thought necessary to have recourse to local bleeding by leeches, and to apply various anodyne remedies. As these afforded no sort of benefit, I was desired to visit the patient. Although the inflammation at this time was considerable over the whole eye, it was greater on the side next the temple than on that next the nose. The patient informed me he was quite easy whilst the eye was still; but that every motion either of the eye or eye-lids occasioned him extreme pain. From this remark I was induced to suspect that there was some projecting substance on one or other of these parts; and on turning the inside of the lid outward, in the way recommended pp. 23 and 266, the cause of the malady was instantly perceived. At the distance of nearly half an inch from the edge of the lid, a little more inclined to the temple than to the nose, a white hard substance was fixed in the Conjunctiva that lined the lid, about twice the size of the head of a pin, and exactly resembling a common chalkstone. It was removed with great facility with the point of a lancet; after

after which the patient became instantly easy, and in three days the Ophthalmy was entirely cured.

CASE XXXIII.

A violent Ophthalmy with Ulcer on the Cornea, preceded by a tertian intermittent Fever, and followed by a similar disorder, after the Ophthalmy was nearly subdued.

A gentleman, about 40 years of age, was attacked with an intermitting fever, on account of which he put himself under the care of a respectable surgeon and apothecary in this city. The fever was subdued by giving him large doses of the Peruvian bark; but at the close of the complaint, the right eye became violently inflamed, and after a few days an ulcer was discovered upon the Cornea, which had opaque edges, and was nearly as large as the aperture of the pupil, the eye being totally deprived of the power of vision. The patient

was

was in this situation, when I first saw him. Although, therefore, the intermittent fever was scarcely subdued, the Ophthalmy was so considerable, and the eye appeared to be in so much danger from the depth of the ulcer in the Cornea, that I thought it indispensably necessary to neglect the intermittent, and devote the whole of my attention to the removal of this local disorder. I immediately scarified the inside of the lower eyelid, and took away as much blood as a common tea spoon would contain; after which I recommended three leeches to be applied to the hollow part of the right temple. His bowels being open, I directed a plain saline draught to be given every six hours, and the eye to be washed frequently with a saturnine lotion. The lower eye-lid was scarified several days in succession, and it always afforded him considerable ease. After a few days, the edges of the eye-lids having a slight gummy secretion, which caused them to adhere when the patient awoke, I touched them with the Unguentum Hydrargyri Nitrati, warmed before a candle; and afterwards

wards I applied to the eye a drop of the *Tinctura Thebaica* of the old London Dispensatory. By pursuing this mode of treatment, the inflammation gradually abated, and in about a fortnight was nearly removed; the ulcer in the Cornea being healed, and the sight, though still imperfect, being greatly improved. At this time the patient was again attacked with a tertian intermittent of the most violent kind, which regularly went through the cold, hot, and sweating stages. After the first fit, the Peruvian bark was given four times in the day, but only in the form of a decoction, and with each dose was added a drachm of the *Sal Catharticus Amarus*; after the second day, however, half a drachm of the powder of the red bark was added to each dose, and it was repeated every three hours. Happily by these means the intermittent disorder was speedily subdued; and the Ophthalmy did not return. The same applications were continued to the eye as had been used before. A dent in the Cornea was visible for a considerable time after his recovery; but it gradually diminished. Its opacity

was

was much less than is usual in such cases, and he at length recovered a very perfect sight.

Remark.

The preceding case points out the necessity of changing the mode of treatment, even from one extreme to another, according to the exigency of the symptoms. If the Peruvian bark had been continued whilst the inflammation of the eye was considerable, and the ulceration was forming in the Cornea, there seems reason to fear that the ulceration would have been increased, and the sight more essentially injured. On the contrary, if the evacuating system had been pursued when the intermittent disorder returned, it would, most probably, have been more firmly established, and afterwards would have been removed with more difficulty.

CASE XXXIV.

An Ophthalmy accompanying a tertian intermittent Fever.

Mr. S. in Tavistock-street, Covent Garden, a stout man, about 50 years of age, applied to me on account of a violent inflammation of the left eye, accompanied with extreme pain both in the head and eye. Blood had been taken from the arm and the eye; and had certainly tended to lessen the violence both of the pain and inflammation; but after a short time the disorder assumed a regular tertian type; the pain returning with its full violence every third day, and continuing the greater part of twenty-four hours; after which, on the succeeding day, the patient continued free from pain until the third morning, when it returned as violently as before. The Peruvian bark was now given between the fits, in the dose of a drachm every three hours. The following fit, after
this

this change of treatment, was much less severe ; but the inflammation of the eye being still considerable, three stout leeches were applied to the temple, which bled freely, and afforded him great relief. The use of the bark was pursued, and a drop of the Tinctura Thebaica was dropped on the eye three times in the day. These remedies were pursued steadily for a week ; when the return of pain was completely stopped, and the inflammation nearly subdued. The Cornea of the affected eye had been partially opaque for many years previous to the present attack of inflammation, and it had occasioned a considerable degree of Strabismus ; but, notwithstanding this imperfection, the eye still retained the power of distinguishing all large objects.

CASE XXXV.

Frequent returns of the Ophthalmy, cured by the Cortex Peruvianus joined with Valerian and Sal Polychrestus.

Mr. —, surgeon in Soho, about 30 years of age, applied to me in the year 1797, on account of the frequent return of an inflammation in his eyes, to which he had long been subject. It usually came on suddenly, without any known cause, giving him great pain for two or three days, and then disappearing, as suddenly as it commenced. The intervals between the attacks were uncertain, but never of long duration. Leeches and other evacuations, together with the lotions that are usually recommended on these occasions, seemed to aggravate the complaint, and protract its continuance. Notwithstanding the patient, in other respects, appeared to be a healthy man, it occurred to me that the present

sent indisposition depended more on debility than on plethora. I therefore recommended him to take the following medicine, and to foment his eye two or three times in the day with hot brandy and water.

R. Decoct. Cort. Peruv. ℥vijss.

Tinct. Valerian. Vol. ℥ss.

Sal Polychrest. ʒij.

M. et capiat coch. jv magna ter quaterve quotidie.

This medicine was continued six weeks, during the whole of which time, he had not any return of the inflammation, and afterwards his eyes became perfectly strong and useful.

CASE XXXVI.

Inflammation in the Eye of an Infant, with a peculiar Speck on the Cornea, consequent upon the Small-pox.

In the year 1800, I was consulted by Mrs. M. in Pimlico, on account of her infant about
three

three months old, who had an inflammation in the right eye, which came on after the child had gone through the inoculated small-pox in the most favourable way. The pustules, which had been very few, and none of them near the affected eye, had wholly disappeared before the inflammation commenced. A leech had been applied on the temple, and some cooling eye-waters to the eye, but they had not produced any good effects. The eye, when I first saw the child, was extremely weak, and constantly suffused with tears. The Cornea had a semilunar speck upon it, of considerable size. It was very different from a common pustule, and seemed to be produced by the deposition of an opaque matter between its lamina, which seemed to spread laterally, rather than to point outwardly. It was situated a little below the pupil, but had visibly continued to increase during the last three days. A little of the Unguentum Hydrargyri Nitrati Rubri was applied on the outside of the eyelids, and a few drops of a mixture of calomel in elder-flower water, were dropped on the eye itself.

itself. I also directed the eye to be fomented with a decoction of the *Capita Papaveris Albi* three times in the day, as hot as it could be pleasantly borne; and a few grains of *Rhubarb* and *Magnesia* were given the child at bed time to open its bowels. On the following day the inflammation was a little abated, and the speck, certainly, was not increased. On the third day the eye bore the light better, the suffusion of tears was less, and the speck appeared somewhat diminished. In a week, without any alteration in the treatment, the inflammation and weakness of sight were wholly removed, and the speck so much reduced in size, that it was not perceived without a close inspection.

CASE XXXVII.

Abrasion of a part of the outer Lamina of the Cornea.

A gentleman, who resided usually in Hampshire, applied to me in the year 1800, on account

count of an inflammation in one of his eyes, which had long troubled him, accompanied with a dulness of the whole Cornea, and an abrasion of part of its outer lamina. He appeared to be in good health, but the irritation of the eye, which was always troublesome, was much worse during the night. I at first touched the excoriated part of the Cornea with a solution of equal parts of Hydrargyrus Muriatus and Quicksilver in the Acetous Acid,* applying it by means of some lint on a probe. This increased the irritation of the eye for a short time, but afterwards it felt much easier than before. I also gave him the red præcipitate ointment to apply to the outside of the eye-lid in the evening, directing him to be very careful to hinder it from passing within the lids; and a quarter of a grain of Hydrargyrus Muriatus, dissolved in spirits, was given him every night at bed time, in a basin of warm gruel. He frequently washed his eye with a weak saturnine lotion made clear by a

* See page 258 for a particular description of the mode in which this solution is prepared,

few drops of the muriatic acid. The solution of Hydrargyrus Muriatus was applied to the eye three days in succession; after which I changed it for some powdered sugar, which was dropped on the eye once every day, after first applying to the edge of the eye-lids a little of the red præcipitate ointment. In about a fortnight, without any further change of treatment, the abrasion of the Cornea was cured, the inflammation of the eye ceased, and the patient recovered a very useful sight.

In the following year, the same gentleman came again to town, on account of a small degree of inflammation in the same eye, and a slight dimness of sight; but there was not now any increase of pain during the night. I touched the rough part of the Cornea two days following with the solution of Hydrargyrus Muriatus and Quicksilver above-mentioned; and afterwards employed only the red præcipitate ointment with powder of sugar; occasionally washing the eye in the course of the day with a weak saturnine lotion; and by this treatment he soon became again quite well.

CASE XXXVIII.

Thickening of the inferior part of the Conjunctiva, with very little Pain or Inflammation.

In the year 1794, Mrs. —, was recommended to me by Mr. Dale, in Hatton Garden, on account of a circumscribed thickness of part of the Tunica Conjunctiva, below the Cornea, which had gradually increased, without giving acute pain, or being accompanied with any high degree of inflammation. At the time I was consulted, the tumour had become so large as to thrust the Cornea constantly upward under the upper eye-lid. Evacuations by leeches and blisters, and by scarifying the tumour had been repeatedly tried, but had not afforded any sensible assistance. The tumour appeared to be produced, in a great degree, by an accumulation of aëps between the Sclerotic coat and the Conjunctiva; and it was reduced in the course of about a month, very nearly
to

to its natural state, and the Cornea to its proper position in the anterior part of the eye, by applying to it once in the day, one or two drops of the Riga Balsam, (which appears to me to be nothing more than a highly rectified spirit,) and by washing the eye three or four times in that time, with a weak vitriolic lotion.*

CASE XXXIX.

Protrusion of the whole Eye, occasioning much Pain and Inflammation.

In the year 1794, I was consulted by Mr. Manners, surgeon, in Parliament-street, on account of the coachman of Mr. Smith, in Spring Gardens, who had a very considerable protrusion of one of his eyes, in consequence of an enlargement of the adipose

* Two other cases of the same kind which came under my care, about the same time, were relieved by a similar mode of treatment,

substance that lay behind, and supported it in the orbit. It came on gradually, having been accompanied with very little inflammation or pain, until the latter was excited by the great stretch of all the parts connected with the eye. When I first saw him I found it very difficult to move the eye-lids over the globe of the eye, and the patient himself possessed no power either to raise or depress the upper lid, without the help of the finger. In this case evacuations were freely employed, by opening the angular vein, by leeches on the temples, and by a large blister repeatedly applied on the head. The Conjunctiva being much tumified, I also removed a portion of it round the whole of the Cornea with a pair of curved scissars. Purgative medicines were occasionally administered, and a strict antiphlogistic regimen observed; the eye itself being covered, sometimes with saturnine and vitriolic lotions, sometimes with brandy and water, and sometimes with the Coagulum Aluminosum. By these means the tumour was somewhat reduced in size, but after nearly a month's trial, there

there remained a very considerable protrusion of the whole eye. This was at length evidently and expeditiously diminished during the use of the expressed juice of the Dwarf lettuce, (*Lactuca Sessilis*.) The juice was frequently applied to the eye and eye-lids in the course of the day, by means of a folded cloth; and by continuing to apply it, the tumour wholly subsided, and the man recovered his perfect sight.*

CASE XL.

Protrusion of the whole Eye, without Pain or Inflammation.

A gentleman, about 30 years of age, applied to me in the year 1791, on account of a considerable projection of the right eye, which had increased gradually for several weeks, but gave

* In several cases of Chemosis, I have seen the application of the *Succus Lactucæ Sessilis*, as directed in this case, afford essential assistance. The best mode of preparing it, is to macerate the inner leaves or hearts of the lettuce, for about ten minutes in *balneo mariæ*, and then to express the juice through a linen cloth.

him no pain, nor interfered at all with the strength and clearness of his vision. The pupil was of its proper size, and dilated and contracted freely, when exposed to different degrees of light. From hence it seemed evident that the projection of the eye was not occasioned by any affection of the organ itself, but rather by a morbid accumulation, of some kind, in the adipose substance that supported the eye in the orbit. The gentleman was perfectly well in other respects, and the present disorder could not be traced to any previous indisposition. When I first saw him, I advised the application of three or four leeches on the hollow part of the temple, and afterwards of a blister, of considerable size, on the upper part of the head. A purgative medicine was administered, and a strictly antiphlogistic mode of living was directed. A compress dipped in a mixture of equal parts of brandy, vinegar, and water, was kept on the eye, for half an hour at a time, several times in the course of the day.* The

* At this time I was not acquainted with the use of the *Succus Lactucæ Sessilis*, mentioned in the last case.

leeches were repeated three times in the course of a fortnight ; but at the end of this time, no change was perceptible in the appearance of the eye. I then opened the vein that passed on the right side of the nose, and took from it about four ounces of blood. When the blister on the head was healed, an oiled silk cap was applied to promote a perspiration from this part, and the head was shaved regularly every third day ; purgative and discutient remedies being still continued. After this I opened the right temporal artery, but it did not bleed so freely as the vein that had before been opened on the side of the nose. A pea was put into the orifice for the purpose of converting it into an issue. This gave no pain for the first three days, but then the temple swelled, and became uneasy ; and in a short time a considerable collection of matter formed, which was discharged through the aperture that contained the pea. The effect produced by the discharge was very remarkable. The prominence of the eye began immediately to diminish ; and without any alteration in the mode
of

of treatment, the eye, in a short time, was reduced to its natural size, and the gentleman became quite well.

I remember a case not unlike to this, in which the projection of the eye became very considerable, giving great pain, and resisting a great variety of remedies recommended by different surgeons, which, at last, was cured by the application of a large caustic behind the ear. The eschar the caustic produced extended very low on the neck, and was at least three inches in diameter; and when this separated, it left a large and painful sore, which discharged a great quantity of matter daily, for a considerable time.

I remember, also, another case of this kind, in which the cure was accomplished by making a puncture, with a lancet, into a tumour, which was faintly perceived between the lower part of the globe of the eye, and the edge of the orbit. A small quantity of a serous fluid was discharged by the puncture, after which the projection of the eye subsided almost immediately.

CASE

CASE XLI.

*An Ophthalmy produced by an Inversion of the
Lower Lid.*

S. S. at about 50 years of age, applied to me, on account of an inflammation in her left eye, which had continued nearly two years; notwithstanding the use of various medicines and applications, recommended by different persons. On examining into the case, it was evident, that the inflammation was caused by an inversion of the lower lid, which occasioned the lashes to rub constantly against the eye. She had, for many years, been subject to convulsive fits, which affected every part of her body; and the disorder in the eye first came on, after a severe attack of this kind. I immediately applied sticking plaster to the lid, and continued it down upon the cheek; by which a fold was made in the skin below the lid; and this effectually answered my design, of keeping out the edge of it, so long, as the

U plaster

plaster remained well on the part: but, after trying it for several days, I found, that it was very liable to slip; and that, when this happened, the lid immediately returned to its inverted state. I therefore fixed an instrument, something similar to that contrived by Bartischius, and represented by Heister, (plate 15, figure 20) upon the skin below the lid, and let it hang upon the cheek; which, by its weight kept the lid from becoming inverted: but, as the benefit it produced was only temporary, and the pinching of the skin, which was necessary to confine it, gave the patient pain; I soon omitted the use of it, and performed the following operation:—I first took off a transverse fold of the skin, below the edge of the lid; and then, by three sutures, confined the sides of the wound close to each other. The day after the operation, the integuments surrounding the eye were considerably swelled; but the swelling soon subsided, by the use of the Aqua Saturnina, applied as a fomentation. No difficulty afterwards occurred: the eye-lids continued constantly in their natural state;

the inflammation of the eye was speedily removed; and the patient became perfectly well.

Some time after, the same woman applied again with an inflammation in her right eye, which arose, like the former, from an inversion of the lower lid. The left eye had been quite well ever since the operation. The same was performed on this eye; and, being followed with the fomentation, as before, to reduce the consequent swelling, it as readily effected a perfect cure.

CASE XLII.

Communicated by the late Mr. Bromfield.

*An Ophthalmy produced by an Inversion of the
Upper Lid.*

“ The worst kind of Trichiasis, which I
“ ever saw, was a young gentleman about 18
“ years of age. Previous to my seeing him
“ he had repeatedly undergone the usual dis-
“ cipline of extracting the hairs from the
“ Cilia : but when they grew again, they took

“ their usual course towards the Tunica Con-
“ junctiva; and by continual irritation of that
“ membrane, gave constant pain, and pro-
“ duced, what writers on diseases of the eyes
“ call Chemosis, and what gives me the idea
“ of fungous flesh, or of a villous surface,
“ resembling the pile of red velvet. After a
“ variety of treatment, as bleeding, purging,
“ blistering, setons, bark, alteratives, and the
“ use of every other method, which the most
“ eminent practitioners, both in physic and
“ surgery, could think of; recourse was had
“ to eye-waters and salves, and the Panaceæ
“ of the most celebrated empirics of the time:
“ but all proved ineffectual, and the young
“ gentleman became totally blind.

“ At this period I was consulted, and at
“ the same time was asked, if I had any ob-
“ jection to the opinion of a celebrated itine-
“ rant oculist, who was at that time in Eng-
“ land. I said, certainly not. We accord-
“ ingly met; and when we had examined the
“ eye, and heard what had been done, he
“ proposed the taking off a fold of the skin
“ of

“ of the superior Palpebra. I told him I
“ should not object to his making the attempt,
“ if the gentleman and his father gave their
“ consent: though, I own, it was my opinion,
“ that it would not succeed. At that time,
“ I had not considered the case sufficiently,
“ though I intended to do it very critically
“ before we met again. A day for the opera-
“ tion was fixed: but, previous to that, the
“ oculist sent a message to the young gentle-
“ man’s father, which discovered the true
“ Charlatan, and immediately determined the
“ gentleman not to have any thing more to
“ do with him. I was again sent for, and,
“ having well considered the case, I freely
“ delivered my sentiments, that the method,
“ which had been proposed, did not seem
“ likely to me to be successful, as the fault
“ was not in a superfluity of skin, but in a
“ relaxation of the Elevator Palpebræ superi-
“ oris muscle. Having premised this, I re-
“ commended, and performed, the following
“ operation. I made an incision through the
“ integuments of the upper lid, from the in-
“ ner

“ ner angle of the eye to the outer ; I then
“ separated the fibres of the Orbicularis, so as
“ to denudate the expanded fibres of the Ele-
“ vator muscle, as near to their termination
“ in the edge of the lid as possible ; which
“ being done, I applied a small cauterizing
“ iron, adapted to the convexity of the globe
“ of the eye, and made pretty warm, by
“ passing it two or three times over the ten-
“ dino-carnous fibres. My intention, in this,
“ was to occasion a slight irritation, which I
“ hoped would produce the same effect, as
“ we frequently observe to happen after burns
“ in different parts of the body, especially
“ in the hands, after which the fingers often
“ contract, and in many instances have re-
“ mained contracted, ever after. This happy
“ effect took place in the present case: and,
“ though the eye-lid was kept constantly
“ higher than I could have wished, the Trich-
“ iasis was cured, the inflammation subsided,
“ and the eye became useful.” *

* See the remarks on this subject, page 94.

CASE XLIII.

A Psorophthalmy unattended with any other Complaint.

The foreman of a pewterer had, for several years, been subject to a weakness in his eyes, accompanied with a frequent soreness on the edges of the lids, causing them so strongly to adhere to each other, as put him to great pain, in separating them, when he awoke in the morning. The soreness at length returned so often, and became so troublesome, as to determine him on asking Mr. Wathen's advice. The case answered exactly to the description of the Psorophthalmy; and accordingly the Citrine Ointment, and White Cerate, were immediately ordered to be applied. The first trial of the ointment, (owing to the undue quantity which the patient, by mistake, used,) gave him so much pain, that he could not be persuaded, for the present, to repeat it: notwithstanding

withstanding which, from this time, his eyelids began to mend; and in three weeks, by the use of the Cerate alone, he was apparently cured. He continued well a month; at the end of which the same complaint returned, though in a less degree than before. He was again urged, and with difficulty persuaded, to use the Citrine ointment, in a more cautious manner, so as not to touch the globe of the eye. It gave much less pain; and in a few days, the complaint was entirely removed. Some weeks after this, he had another relapse, and was relieved as speedily, by the same application. Since this time he has had no return of any consequence; and, as soon as he perceives the least tendency to it, he recurs to the ointment, which is always sufficient to remove it.

It would not be difficult to adduce many hundred cases precisely similar to this, here related, which have come under my care, and have been relieved in a similar manner. I shall only adduce one more, however, on the present occasion.

CASE XLIV.

*A slight Psorophthalmy, with general debility,
and great Weakness of Sight.*

In the year 1798, I was desired to visit Mrs. —, in Bloomsbury-square, who at that time was just recovered from a lying-in, and who, in addition to her general debility, had so great a weakness of sight, that she was unable to work with her needle, for more than a few minutes together. This weakness of sight had been troublesome many months before her confinement, and had prevented her in a great measure from associating with her friends, or bearing the light that was given from two candles in a room. In this instance the edge of the eye-lids had occasionally a slight degree of redness more than was natural; but there was not the smallest excoriation, nor was any gum found on them when she awoke in the morning. I, however, applied the Un-
guentum

guentum Hydrargyri Nitrati, which occasioned the usual discharge of tears ; but on the first day it produced a very slight sense of amendment, if any. I also gave her a weak vitriolic lotion, to apply to the eyes occasionally, in the course of the day. Her general debility was so great that she did not attempt to suckle the infant, and in order to give her strength, I desired her to take a draught twice in the day, composed of the Gum Myrrh with Kali and the Ferrum Vitriolatum. This treatment was pursued steadily for about a month. The application of the ointment which was repeated once in the day, always made the sight more clear ; the medicines evidently increased her strength ; and in a few weeks she was enabled to mix with her friends, and to read and work with her needle, without suffering any sort of pain or inconvenience.

CASE XLV.

A Psorophthalmy and Ophthalmy united.

A child, when about ten months old, was suddenly seized with a swelling of the eye-lids, attended with a considerable discharge of matter from between them. For this complaint, she was under the care of an apothecary, who gave her a variety of medicines, and washed the eye with many different eye-waters; notwithstanding which, the disorder continued nearly twelve months, with great violence, and frequently caused considerable pain. At first, the right eye only was inflamed; but afterwards, the left also was affected; and, in that eye the inflammation became the most obstinate and troublesome. At length, her friends carried her into the country, where she recovered; which, they supposed, was owing to the change of air. Notwithstanding this, when the child was about four years old, the
same

same disease returned in the left eye with equal violence ; but was relieved in a very short time, by the use of an ointment given by a stranger. She continued well for nearly twelve months more, when the left eye became again affected, as in the last relapse. The ointment, which had before cured her, was now tried without any success. She took physic every third morning, for several weeks, but still was unable to look at the light ; and the eye-lids were much inflamed and swelled. In this state, I first saw the patient ; when, the lids being separated with difficulty, I discovered a large speck, which appeared to cover the greater part of the Cornea. I advised the application of three leeches, and a blister, to the left temple: the Thebaic Tincture was also made use of ; and being found to give great ease, was repeated every day. In a fortnight, the inflammation was considerably abated, and the child could open her eyes with ease: but, still, the edges of lids appeared red, and adhered much to each other during the night ; on which account, the citrine ointment, and white cerate,

cerate, were applied at bed-time ; and the mixture of warm butter and milk, when she awoke in the morning. In ten days more, the inflammation was wholly removed both from the eyes and eye-lids: the speck, also, which at first appeared to cover the whole pupil, was greatly reduced, and the sight was so far restored, as to become very useful. An alterative powder, composed of *Æthiops Mineralis* and *Cremor Tartari*, was given twice a day ; and towards the completion of the cure, an issue was opened in the left arm. An eye-water composed of a weak solution of *Hydrargyrus Muriatus* was continued a long time after the other applications, on account of the speck ; which, though it in part remained for a long time, as is well known to be usual in such cases, was, however, by this means gradually and greatly diminished.

CASE XLVI.

*A Psorophthalmia with an Ophthalmia, and
Specks on the Cornea.*

An apprentice to a mathematical instrument-maker in the city, about 17 years of age, having had the small-pox when he was only two years old, was, ever since that time, subject to frequent, and almost continual, complaints on the edges of his eye-lids. They were red, sore, and adhesive; and an inflammation sometimes extended from them to the eyes, and continued upon them for months together; depriving him of sight, and disabling him from attending his school, when he was a child, or his business, after he was an apprentice. The inflammations had left specks in both eyes, which occasioned, in a greater or less degree, a constant obscurity in the sight. Great quantities of medicine had been taken; and various eye-waters, ointments, &c. had been used, without any effect. After
undergoing

undergoing much pain for some time, he, by my advice, began the use of the citrine ointment and white cerate. They had been tried only three days, before I found, that the edges of the lids were much softened, became more easy, and adhered less together when he awoke in the morning: the redness, which extended to the globe of the eye, also subsided after a few applications of the Thebaic Tincture. By these means, and with no other assistance, but that of an electuary, which, while it acted as an alterative, served also to keep the body gently open, the patient gradually mended; and, in less than a month, the complaint in the lids was entirely removed. More than two years are passed since the cure, and the patient has not had the smallest relapse: the specks, also, by the continued use of the sublimate water, have been so far reduced, as to form little or no obstruction to the sight, and, indeed, not to be discernible without close inspection.

CASE XLVII.

An inveterate Psorophthalmia of long Continuance.

Mrs. —, a lady in the city, five years since was seized with a soreness upon the edges of the right eye-lids, which gave her great pain, and frequently inflamed the eye. Various internal medicines were administered, with some externals, by an apothecary; who supposed it to proceed from a scorbutic acrimony in the constitution: but after a considerable time had elapsed, without any amendment, a physician was consulted, who prescribed other medicines, with a similar intention, but with no better effect. She afterwards went to Rochester, and put herself under the care of a woman, who is much celebrated, in that place, for curing obstinate complaints of this nature. This person used different topical applications, without affording any relief; and the patient, after
a trial

a trial of two months, came away worse than she went. Both eyes were now so bad, that she was obliged, for several months, to sit in a room totally dark. During this time, she made trial of various remedies, both external and internal; some of which were recommended by her friends, and others by the faculty. Notwithstanding all, the soreness of the eyelids increased, the excoriation spread towards the cheek, and the pain was without intermission. A perpetual blister had been put on her back, an issue made in her arm, and leeches repeatedly applied to the temples. A surgeon of reputation was consulted; who after a long attendance, declared himself unable to do her service, unless she would submit to have a seton in the neck, which she refused. About a year and a half from the commencement of her disorder, the Unguentum Hydrargyri Nitrati, &c. were proposed to be used in the manner before directed. The extreme soreness of the lids caused the first application to give more than common pain: it was however, regularly repeated; and, at the end of a week the lids

assumed a more favourable aspect, and the eyes began to bear the light. As the lids mended, the pain from the application abated, and, in a short time, wholly ceased. Their adhesions to each other became every day less; and, in six weeks, the soreness was entirely gone off, and they returned to their natural appearance. Her eyes now look as well as if they had not been at all disordered, and her sight is in common, equally good as ever; though, at times, she has found a degree of tenderness in the lids, which has called for the use of the ointment, and she has always experienced immediate relief from it.

CASE XLVIII.

A Psorophthalmia and Ophthalmia, with an acrimonious Humour over the whole Face.

A child of Mr. E. near Greenwich, about four years old, was brought to me, in the year 1793, on account of a violent inflammation
in

in both its eyes, accompanied with a general eruption over the whole face, and so great a swelling of the eye-lids, and upper part of the nose, that the eyes had not been seen for above a week. Various sorts of eye-water had been applied, and several doses of a purgative medicine had been administered, without affording the least benefit. I recommended to foment the whole face morning and evening, with a decoction of poppy-heads, as hot as it could be pleasantly borne, for ten minutes or a quarter of an hour at a time ;—to cover the face in the intermediate time with the Ceratum Florum Zinci spread on linen, having holes cut in that part of the linen which was opposite the eyes ;—to apply a little of the Unguentum Hydrargyri Nitrati to the edges of the eye-lid, once in the day, and afterwards to insinuate between them a drop of the Thebaic Tincture ;—to give half a grain of Calomel mixed with an absorbent powder every evening, and six drachms of the decoctum Corticis Peruvianæ, mixed with a drachm of the Tincture and a few grains of the

Sal Polychrestus twice in the day. The Ceratum Florum Zinci was made in the following manner.

R. Olei Olivarum optimi ℥j.

Ceræ Albæ.

Spermatis Ceti aa ℥ss.

Lento igne fiat ceratum, et coletur.

R. Hujus Cerati ℥ss.

Florum Zinci ℥ij.

Misce pro usu suprascripto.

No alteration was afterwards made in the treatment, and at the end of a fortnight the inflammation of the eyes and eruption of the face were perfectly removed.—I have reason, however, to believe, from a considerable number of similar cases, which have since come under my care, that the application of the Unguentum Hydrargyri Nitrati Rubri, in the way that is mentioned, page 88, would have accomplished the cure with as much expedition, and with less pain to the child, than that of the Unguentum Hydrargyri Nitrati and Thebaic Tincture, which were here employed.

CASE XLIX.

Both Eyes Purulent, in an Infant Subject.

A child, only three days old, was suddenly seized with a swelling in both eye-lids; and which was attended with a considerable discharge of matter. The disorder continued in this state for a month, without the least abatement. During that time, nothing more was done, than washing the outside of the lids with Rose-water and Tutty, squeezed through a sponge. As this was found ineffectual, the case came under my inspection; when I immediately washed off the matter, which was lodged on the globe, with the Aqua Camphorata, (recommended page 135,) properly diluted, and injected through a syringe: directing the repetition of the same, every hour. In a day's time, the swelling and discharge evidently abated; and, the same applications being continued, with the occasional use of Rhubarb and Magnesia,

nesia, to keep the child's body open, both the eyes were completely cured in less than three weeks after.

CASE L.

Purulent Eyes with Specks.

The eye-lids of another child, on the ninth day from its birth, began to swell; and, on the tenth, discharged a great quantity of matter. The apothecary of the family immediately applied a large blister to the back; and a lotion and ointment were used to wash, and anoint, the outside of the lids. The blister discharged freely; and, for short intervals, the appearances were very promising: but, not continuing, two more blisters were applied behind the ears, which produced no more lasting benefit than the first. At the end of five weeks, the disorder was as violent as ever. Mr. Wathen was then called in, by whose direction, the diluted Aqua Camphorata was injected, and repeated every hour. The same night, the child
opened.

opened its eye-lids, which it had not been able to do, since the first appearance of the disorder; but, several days elapsed, before the eyes could be distinguished; the child, as was natural in that state, keeping them closed, by way of defence against the light, and the lids becoming everted, on every attempt to separate them with the finger. When they were first seen, the Cornea of both appeared to be entirely clouded over, and a small white spot was perceived on each. The same treatment was continued a month; towards the end of which, one drop of the Thebaic Tincture was dropped into the eye, every day. The discharge, at that period, entirely ceased;—the eyes acquired their natural clearness;—the specks gradually lessened, and soon became transparent;—and the complaint returned no more.

CASE LI.

Purulent Eye, with discharge of Blood as well as Matter.

A child was first seized like the former when about a week old, with a considerable swelling of the eye-lids, attended with a great discharge of matter. After three days, instead of matter, pure blood continually issued out. Fomentations and ointments were carefully applied, for a week, by advice of an apothecary; who finding no amendment in that time, gave it as his opinion, that the eyes were lost; and desired other assistance might be called in. I proposed the diluted Aqua Camphorata, and immediately injected it. It was repeated every hour; and, the next day, the hæmorrhage ceased; but was followed with a return of the matter which continued to discharge in a great quantity. The same lotion was regularly injected; the body was kept

kept constantly open with Magnesia; and the discharge from two large blisters, which had been put behind the ears, was preserved by the use of the Epispastic Ointment. At the end of three weeks, the discharge ceased, and the eyes were apparently well; but, from the child's taking a fresh cold, or from some unknown cause, the disorder returned with much violence, which rendered it necessary to repeat the same application a fortnight longer; when both the eyes were perfectly recovered, and neither had any relapse.

CASE LII.

The Purulency, violent and obstinate, accompanied with Eversion of the Lids.

The last case I shall relate, under this class, is of a child, who, four days after its birth, was attacked with a swelling of the left eye-lids, which increased rapidly, till it became of the size of a large walnut: the right eye-lids
also

also swelled, at the same time, in a smaller degree; and, the day following, a very large quantity of matter was discharged from between both of them. When the left eye-lids were separated from each other, the appearance very much resembled a deep wound, filled with matter. By advice of the midwife, a mixture of parsley and hog's-lard was first applied; but, the child continuing to be in extreme pain, it was soon changed for a poultice of bread and milk. By the same advice, the lids were afterwards fomented with a decoction of poppy-heads; and a large blister was applied to the back. The discharge, notwithstanding, continued very profuse; and, at the end of a fortnight, the upper lid of the left eye became everted, whenever the child cried; but returned to its natural state, when the crying ceased. At first, the eversion was only of a small part of the lid; but soon increased, till it became entire. The Tunica Conjunctiva, on the inside of this lid, was also very much swelled, and appeared of a deep red colour. In a short time, the eversion was so confirmed, as to continue,

tinue, through the day, in the same state; and much resembled, (as Mr. Warner has expressed it) an inverted *Intestinum Rectum*. It was at this advanced degree of the disorder, that I first saw the child. I directly applied, as in the former cases, the Aqua Camphorata, ordering a repetition of it every hour; and particularly recommending, that, at each washing, the matter might be entirely cleared away. A poultice, made with the alum curds and hog's-lard, was applied to the lids, at bed-time; when, a tea spoonful of the syrup of poppies was also given, to procure rest, which it did for several hours. The discharge soon became less, but the eversion continued; on which account, the lid was returned with the finger, and graduated compresses, dipt in the camphorated lotion, were applied over it, so as to make a constant gentle pressure. The compresses did not succeed, as I could wish: and the eversion often took place, notwithstanding their application; a finger was, therefore, directed to be kept more constantly on the lid, till it was perfectly restored. The child was
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bled with two leeches, and blistered, on each temple; gentle purges were frequently administered; and the Thebaic Tincture was daily dropped into the eye. The finger was kept on the compresses, wetted as often as necessary, with as few intermissions as possible, for a week; at the end of which, the habit was so far overcome, as not to be constant, though it still happened, whenever the child cried. The camphorated lotion being regularly continued, the discharge gradually abated; and, at the end of two months, the swelling, discharge, and eversion, were entirely cured, and the eyes became perfectly sound and clear,

ON THE
EPIPHORA,
OR
WATERY EYE.

On the Epiphora, or Watery Eye.

Read before the Medical Society of London, Dec. 27, 1790.

BY the term Epiphora is meant, an accumulation of tears on the anterior part of the eye ; in consequence of which, the person afflicted with this disorder is not only under the necessity of frequently wiping them away, but vision is injured by the morbid refraction which they produce in the rays of light that enter the pupil. This disorder may be occasioned either by a more copious secretion of tears than the puncta lachrymalia are able to absorb, or, which I believe to be its more common cause, by an obstruction in the lachrymal canal, in consequence of which the tears are prevented from passing freely from the eye into the nose.

It is not my design in this paper to enlarge

on the manner in which the tears are produced. I shall only observe, that though they were formerly supposed to be secreted, solely, by the glandula lachrymalis, the observations of modern anatomists have given rise to an opinion, not only that a part of them transudes through the pores of the Conjunctiva and Cornea, but that their quantity is increased, and that their acrimony is abated, by the united secretions of the caruncula lachrymalis, and glandulæ meibomii.*

When an Epiphora is produced by a too copious secretion of tears, if it do not depend on an affection of the mind, its more remote cause usually is an inflammation in the membranes of the eye; and in such a case its cure will be accomplished by the removal of the inflammation: after which the eye may be strengthened by mild astringent applications, such as cold water, either alone, or

* See on this subject Zinn's *Descriptio Anatomica Oculi Humani*, Gottingæ, in 4to. ch. xiii. sec. 1; and Janin's *Memoires et Observations Anatomiques, Physiologiques, et Physiques, sur l'œil, et sur ses maladies*, à Lyon, en 8vo. p. 51.

mixed with small proportions of white vitriol or verjuice.

But that species of the Epiphora which I now propose particularly to consider, is produced by an obstruction to the free passage of the tears from the eye into the nose. This obstruction may take place either in the ducts leading from the puncta lachrymalia into the lachrymal sac, or in the sac itself. When the ducts are obstructed, a case which rarely occurs, the tears fall over the cheek, and the sac is constantly empty. Pressure on the sac, therefore, can produce no regurgitation either of tears or mucus into the eye. The method of cure is here evident. A small probe of a suitable size must be introduced through the puncta of the obstructed ducts into the sac; and this operation be daily repeated until the obstruction be removed. But the part in which the obstruction more commonly lies is in the sac itself; and in this case the tears, mixed sometimes with mucus, flow back into the eye through the puncta, when pressure is

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made

made on the sac. Without adverting at present to the bony duct of the os unguis, (in which a part of the lachrymal sac is lodged,) a disease of which duct occasionally causes an Epiphora, and in general terminates in a *Fistula Lachrymalis*, an obstruction to the passage of the tears may be produced either by a thickening of the membrane which lines the sac; by the lodgement of inspissated mucus in the inferior portion of this cavity; or by a spasmodic action in that part which has been called by some a sphincter of the sac. These three causes of the obstruction not only take place separately, but sometimes exist together; and they mutually tend to increase each other.

It is well known that mucus is secreted by the membrane which lines the lachrymal sac, in like manner as it is secreted by the pituitary and other membranes. This mucus, when in its natural state, is perfectly limpid, and, mixing with the tears, passes with them into the nose; but when the membrane which lines the sac is diseased, it often happens that the mu-

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cus secreted by it is thickened; in consequence of which, it becomes incapable of passing through the sac, and the tears by its lodgement are prevented from pursuing their regular course; their descent being probably still further interrupted by a spasmodic action in the inferior part of the sac, which, as I have just observed, is by some supposed to form a sphincter sacculi.

This is the precise state of the disorder, the treatment of which I now propose to consider; and it is in this state of it that the means which will be recommended, appear most likely to prove successful.

Various are the remedies that have been proposed for the cure of the Epiphora by different surgeons. But it is needless to spend much time in enumerating them, since I know of none of approved efficacy, except the method first recommended by Monsieur Anel, in the year 1712, and that by Mr. Blizard, in the year 1780. It ought, however, to be mentioned that, in some few instances, stimulating applications, such as the Unguentum Citrinum

of the Edinburgh Dispensatory, and the *Unguentum ad Lippitudinem of St. Thomas's Hospital, when applied to the edges of the lids, and rubbed into the skin which covers the lachrymal sac, have been thought to afford relief. Stimulating remedies drawn up the nose in order to increase the secretion of the pituitary membrane, have also been supposed to possess some efficacy. But, notwithstanding the favourable effects which these remedies may occasionally have produced, practitioners well know that the assistance they are capable of affording is very uncertain; and, if thought advisable, they may be adopted in perfect conformity with the mode of cure I am about to recommend.

* The Unguentum ad Lippitudinem is directed to be made in the following manner:

R. Axungiae Viperinae curatae, drachmas tres.
 Ceræ Albæ incisæ, drachmam unam.
 Mercurii Corrosivi Rubri præparati, drachm.
 dimidiam.
 Opii Colati, grana tria.

Liquefiat cera cum axungia in balneo arenæ, ac simul ac mistura lentescere incipit, adisce mercurium et opium, et bene move donec unguentum penitus refrixerit.

Monsieur Anel's method consisted first in passing a probe, and afterwards injecting a liquor, through the puncta lachrymalia, in order to clear away the matter which obstructed the lachrymal passage. By these means he asserts that he performed many remarkable cures; and Heister, in his *General System of Surgery*, confirms Anel's account; and adds, in his chapter on the *Fistula Lachrymalis*, part ii. sect. 2. that by a similar practice he had, in many cases, accomplished a cure, in so short a space of time as three days. Strong, however, as this recommendation of Anel's mode of treatment, in cases of the *Epiphora*, unquestionably is, the practice of it has been rarely adopted in this country; and many of our most celebrated authors, when writing on this disorder, have treated his proposition with marked indifference. Mr. Sharp, in his *Treatise on the Operations of Surgery*, page 176, declares himself "by no means inclined to think favourably of it." Mr. Warner, in his description of the human eye, and its disorders, does not once mention it. And though Mr.

Pott,

Pott, in his *Observations on the Fistula Lachrymalis*, expresses himself more favourably of the use of Anel's syringe than Mr. Sharp did, yet after all, in page 40, he recommends the application of a vitriolic collyrium, and enlarges on the advantage of keeping the eye clean and cool, in such a manner as plainly to evince the indifferent opinion he entertained concerning it. Mr. Bell also, in the third volume of his *System of Surgery*, page 488, asserts in direct terms, that the puncta lachrymalia are so very small that no probe or syringe can be passed through them, of a size sufficiently large to remove an obstruction in the nasal canal.

In the year 1780, Mr. Blizard having turned his thoughts to the subject now under consideration, and recollecting that water injected through the punctum lachrymale not only had but little specific weight, but was urged through the lachrymal sac in an unfavourable direction, proposed, instead of water, to introduce quicksilver through a small pipe communicating with a long tube full of the same fluid. The specific gravity of the quicksilver, when the sac

was

was distended with it, he believed, would have more power than water propelled through a syringe, to remove the lachrymal obstruction. In a paper read before the fellows of the Royal Society, in the year above-mentioned, Mr. Blizzard informed them, that he had employed this method in a case which had continued seven months, and by means of it had accomplished a perfect cure of the disorder; the quicksilver, on the third and on the fourth time that the operation was repeated, passing freely through the duct into the nose. I have pursued Mr. Blizzard's process several times, in cases which appeared to me to be similar to this above-mentioned, and I have flattered myself, in one or two instances, that it was attended with good effects. But it is equally true, that in the greater number in which I used it the experiment failed. And it ought to be remembered, that in the case related by Mr. Blizzard, as well as in those in which I used the quicksilver myself, the injection of water in Anel's method had not been tried. If therefore we admit its efficacy in the cases
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above-mentioned, we are still, I think, unsupported in giving it a preference to Anel's method, since the latter, if tried, might very probably have been attended with equal success.

In a visit I made to Paris in the course of the year 1791, I had an opportunity of conversing on the subject of lachrymal obstructions, as well as on many others which relate to disorders of the eye, with Messieurs Grandjean and Monsieur Arrachart, oculists of considerable celebrity in that city. By them I was informed that the practice of injecting water through the puncta lachrymalia, in incipient cases of the fistula lachrymalis, was by no means relinquished in France; but, on the contrary, that it was still adhered to, both by themselves, and by others, and that it often produced highly beneficial effects. I saw the operation performed by Messrs. Grandjean in several instances; in some of which, the liquor passed freely into the throat and nose; and the Epiphora, which I was informed had been long troublesome previous to its use, appeared to be perfectly cured. In consequence of this recommendation,

commendation, I determined, on my return to London, to give Anel's operation a fuller trial than I had hitherto done; and, as soon as I arrived here, I directed a small silver syringe, with pipes fitted to it of different sizes, to be made for me by Mr. Pepys, in the Poultry. When these were finished, I did not wait long for an opportunity of using them.

A lady in Great Russel-street came under my care, who for many months had been subject to an Epiphora of the left eye, which prevented her both from reading, and working with her needle, without undergoing great inconvenience. Whenever she employed herself in any way that required close attention, her eye became overspread with tears, and the sight was so much confused, that it obliged her to leave off almost as soon as she began. A great variety of remedies had been applied, under the direction of different medical men, but none of them produced any essential amendment. On examining the eye, I observed that the Tunica Conjunctiva, near the inner angle of the eye-lids, was slightly inflamed;

flamed; and on pressing the lachrymal sac with my finger, I perceived that a tear regurgitated through the lower punctum. This appearing to be a proper case for the use of the syringe, I immediately determined to employ it. But I found that though a tear came through the lower punctum on my pressing the sac, yet this punctum was so small that it would not admit the point of the smallest syringe I then had. I introduced into it, however, a small probe, and by means of this I so far dilated the orifice, that it admitted the point of the syringe, on the next day, without any difficulty. Upon my first using the injection, the water escaped through the upper punctum almost as fast as it was introduced through the lower; but, notwithstanding this, I persevered in urging the liquor on, until the whole contents of the syringe were exhausted. I repeated the injection three times the same day in immediate succession. The lady, however, was not sensible that any part of the water passed through the duct into the nose during either of these operations; and indeed
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it soon became evident that none had passed ; for, having cleared her nose before I began, on her blowing it again immediately afterwards, she could produce no moisture on her handkerchief. I repeated the operation three times both on the second and on the third day ; and each day, during the time that the water was passing, I not only endeavoured to prevent it from coming through the upper punctum, by covering it with the point of my finger, but I occasionally pressed the lachrymal sac in order to give the water an inclination downward. On the fourth day I very plainly perceived, on the patient's clearing her nose after the operation, that a part of the water had passed through the duct ; and, the next morning, I had the satisfaction to hear, that the eye, on the preceding day, had watered much less frequently than it had done for a considerable time previous to it. I repeated the process above mentioned about ten times in as many days, and I observed that the quantity of water which passed through the duct was augmented every time I used it. The tears, after this, resuming

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ing their natural course, the lady recovered the power to read and work without any inconvenience.

Since the cure above-mentioned, I have made use of the syringe in a considerable number of cases, which appeared to be similar to this I have now described; and in several of these it was attended with very manifest advantage. I shall take the liberty to relate the three following, which appear to deserve notice.

A lieutenant in his Majesty's navy caught a violent cold, about six weeks before I saw him, in consequence of his being exposed for several nights and days together in an open boat at sea. The cold was accompanied with a watering of the left eye, which soon became excessively troublesome. It continued a fortnight, and then suddenly went off without the use of any remedy, except the occasional application of cold water to the eye. At the end of a week, however, the disorder returned with increased violence, and the young gentleman was obliged almost continually to wipe off the tears
which

which ran over his cheek. With the tears a thick mucus was frequently mixed, particularly in the morning, and the eye-lids, when he awoke, were always gummed together, the eye itself being often inflamed. The disorder had been suffered to continue a month after the relapse above-mentioned, without any advice from the faculty, a hope being entertained that it would again go off, as it had before done, without medical assistance. Disappointed, however, in this expectation, he at length consulted me. On examining the eye, I found that the *Tunica Conjunctiva*, on the side next the inner angle of the eye-lids, was considerably inflamed; the *caruncula lachrymalis* was enlarged; and some tears mixed with mucus were retained in the lachrymal sac, which regurgitated through the lower punctum on my pressing the sac with my finger. I immediately endeavoured to inject some water through the sac into the nose; but the passage was so much obstructed that no part of the liquor went through. I repeated the operation the following day, but again without success.

After

After the process I each day touched the edges of the eye-lids with the Unguentum Citrinum, and applied a drop of the Thebaic Tincture to the eye. I also gave him a box of the Unguentum ad Lippitudinem to apply to the lids when he awoke in the morning, in order to remove the gum that collected on their edges; and in the course of the day I desired him to wash his eyes frequently with a weak solution of Corrosive Sublimate. On the two former days, as the weather was warm, the water which I had attempted to inject through the punctum was cold. In the third experiment, this day, the water was warmed, and I added a pipe to the syringe, the point of which was much larger than that of the pipe I before used. I now had the satisfaction to find that a small quantity of the liquor passed into the nose. On the fourth day I was informed, that since the last operation the watering of the eye had been much less troublesome; and on repeating it, some of the water was evidently swallowed. On the fifth day the whole of the liquor injected through the punctum passed through

through the duct; part of it being swallowed, and the remainder running out of the nose. After this time I had occasion to repeat the operation only twice, before the Epiphora entirely ceased, and the eye became perfectly well.

A third case, in which the operation succeeded, was that of a clergyman from Bristol, whose right eye had watered almost continually for seven months. He had no other apparent disorder in the eye, and the inferior punctum was sufficiently open to admit the end of a pipe much larger than I usually employ on such occasions. The liquor passed freely through the sac the first time I attempted to inject it. I had occasion to repeat the operation only once more, and this after an interval of three days. The liquor again passed freely into the nose; after which the Epiphora entirely ceased, and the sight became as clear and perfect as that of the other eye.

The last case I shall mention, in which I used the syringe with success, was that of a young woman in Basinghall-street, whose right
eye

eye had watered almost continually for two years, and who had, in a great measure, been disqualified by it from attending to her business, which was that of a lady's woman. On examining the eye, I perceived that both the upper and lower puncta lachrymalia were exceedingly contracted, and I found it very difficult to introduce a small probe into either of them. As there did not appear to be any retention of tears in the lachrymal sac, I had a hope that a dilatation of the puncta would have produced a cure. In this, however, I was disappointed, since on the following day I was informed, that the watering of the eye had been quite as troublesome as before the introduction of the probe. I now found some tears retained in the sac, and on my pressing it with my finger, they freely regurgitated through the puncta. It is probable, therefore, that on the preceding day the sac had been pressed by the patient, in order to make the eye appear clean before I examined it. I proceeded immediately to make use of the syringe, but at first could introduce only a very small pipe into
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the punctum. The patient received no relief from the operation till after it had been repeated several times. On the sixth day, however, the liquor passed freely through the duct into the nose. After this, the eye became a little inflamed, and I was under the necessity of desisting from the use of the syringe for nearly a week. I afterwards had occasion to repeat the operation only twice before the Epiphora entirely ceased, and the patient pursued her business with ease.

Before I conclude my paper, it may be of use to remark, that the only liquor which I have hitherto injected through the puncta lachrymalia has been common water; sometimes cold, but oftener warmed. Warm water, I think, in general, is to be preferred, on account of its relaxing power; by means of which, in addition to the mechanical influence which is communicated to it by the syringe, it also contributes to take off any spasmodic action that may have been excited in the inferior part of the lachrymal sac. Hereafter it may be found, that medicines may be injected

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through

through the puncta with advantage; but in making experiments care should be taken that the medicines be of such a kind as will neither clog nor corrode the pipe through which they are injected.

It is also proper to add, that the pipes I use are much shorter than that which is represented by Mr. Bell, in his *System of Surgery*;* and they are a little arched toward the point. With this alteration they appear to me to be much more convenient for the purpose of being introduced into the punctum lachrymale, than if they were long and straight. It is advisable to have several pipes always ready. These should be of different sizes, and the largest that can be introduced, without giving pain, should always be used.

As an attention to minute circumstances is often of great consequence in performing operations, I take the liberty to add, that when I use the syringe, I find it convenient to stand either behind the patient, or on the side oppo-

* Vol. III. Plate 37.

site to that of the diseased eye; and always high enough to give me a full command of the patient's head. The syringe being held in the right hand, the eye-lid should be drawn downward, and a little outward, with the forefinger of the left hand. This will bring the inferior punctum fully within sight of the operator, and will place it in a position very convenient for the purpose of admitting the point of the pipe. When the pipe is introduced, the finger should be removed from the lower lid, and be applied as accurately as possible over the superior punctum, to prevent the liquor from escaping through it; and with this finger the lachrymal sac should occasionally be compressed, in order to assist the determination of the liquor downward into the nose.

ADDITIONAL REMARKS

ON THE

EPIPHORA.

IN a paper on the Epiphora read before the Medical Society of London, in December 1790, which was afterwards published in a small pamphlet, together with a few other chirurgical observations, I took some pains to recommend the mode of treatment, which had been first proposed by Monsieur Anel in the year 1712; viz. that of injecting a liquid through the inferior punctum lachrymale, with a view to wash away any matter that might obstruct the passage of the tears, into the nose. At the time the paper above-mentioned was read before the society, I had injected, for this purpose, only common water, either cold or warm; and by the help of this alone, I had been fortunate enough to accomplish a cure in several cases; four of which were related at some length. In those

those instances it seems probable, that the obstruction was produced by the lodgement of inspissated mucus alone in some part of the lachrymal duct. But it ought to be remembered, that a similar obstruction may also be occasioned, not only by a tumefaction of the membrane which lines the duct, but by a spasmodic constriction in any part of this canal.*

* I scarcely need mention that after the tears have been spread over the eye, to keep it moist and transparent, they are absorbed by two minute orifices, called *Puncta Lachrymalia*, one on the edge, and near to the inner extremity, of each of the eye-lids; whence they are conveyed through two small tubes into a little pouch, called *Sacculus Lachrymalis*. This is situated in an excavation in the inner angle of the orbit, formed partly by the nasal process of the *Os Maxillare Superius*, and partly by the *Os Unguis*. Anteriorly the sac has no bony cover. In the adult subject it is about five-eighths of an inch long, and a quarter of an inch broad in its widest part. The lower part of the sac forms a duct, about half an inch long, called the *Ductus Nasalis*, which commences at the inner, and inferior edge of the orbit, and is continued through a bony channel till it opens into the nose; through which the tears are discharged. The diameter of this duct, varies much in different subjects. In some, I have seen it sufficiently large to allow a goose quill to pass through it; and in others, apparently of the same age, it has been so small that it would scarcely admit the end of a small crow's quill. The whole of this passage is denominated the *Canalis Lachrymalis*.

The membrane which lines both the lachrymal sac, and the nasal duct, is not only similar to the pituitary membrane which lines the cavity of the nose, but is a continuation of it. It is full of blood vessels, and has a mucous fluid secreted by its surface, which serves to defend it from being irritated by the tears that continually pass over it. The pituitary membrane, like all other mucous membranes, is liable to be inflamed and thickened by a variety of causes; and when the inflammation and tumefaction of this part take place to any considerable degree, they are apt to extend to the membrane which lines the duct and the sac. The nasal duct is entirely surrounded with bone; whenever, therefore, that part of the membrane which lines this duct is thickened, the passage for the tears is necessarily diminished; and when the tears are prevented from passing off, they acquire a degree of acrimony which irritates the membrane of the duct, and contributes to keep up a contraction, and consequently an obstruction, in this part, after the

7 inflammation

inflammation and tumefaction are removed from the other part of the membrane which lines the nose. The mucus, also, secreted by the membrane of the duct, becomes inspissated, in consequence of the inflammation of this part. By these several means the obstruction in the duct is confirmed; and too often, if the disorder be not attended to, it at length terminates in an abscess of the lachrymal sac; which, bursting externally, produces, according to the strict literal meaning of the term, a *Fistula Lachrymalis*.

Another circumstance which has been assigned by writers as a cause of the *Epiphora*; and which it will be proper for me here to mention, is a spasmodic constriction in some part of the lachrymal canal, without any tumefaction of the membrane which lines it, and without any morbid inspissation of the mucus secreted by it.* When this is the cause of the

* Those cases may perhaps be arranged under this description, in which one, or both, of the *puncta lachrymalia*,

the disorder, the constriction is usually situated in that part of the lachrymal canal, which is denominated the nasal duct. It may undoubtedly take place in the lachrymal sac, as well as in the nasal duct; but it is more apt to happen here, not only because the diameter of the duct is less than that of the sac, but because the duct is the only part of the whole canal, entirely surrounded with bone. And the part in which it seems most likely that the constriction should take place, is its inferior termination, where it opens into the cavity of the nose; as the membrane which lines this part, forms here a fold, which projects beyond the bony rim of the duct, and acts, according to the opinion of many, as a valve or sphincter

lia, are either closed, or contracted in size. Many such have at different times fallen under my observation. When the puncta are wholly closed, the case is often incurable; but when only contracted in size, relief may be speedily given, by passing the end of a small probe through the puncta, and increasing its size from time to time until the orifices have fully recovered their natural dimensions. In such cases it will also be proper to inject some warm water through the inferior punctum into the nose, in order to ascertain that there be no obstruction lower in the duct,

of

of this part.* The fold serves to hinder noxious particles from passing upward into the lachrymal

* Janin, who published his memoirs on the eye in the year 1772,* asserts plainly, that the inferior orifice of the nasal duct is bounded by a valve, or sphyncter, placed there in order to check the too rapid descent of the tears through it, and to hinder the air, or any thing else that might prove injurious, from passing upward from the nose into the sac. To go further back, Bianchi, in the year 1715, expressed himself in the following strong terms on the same subject.†
 “Valvulæ cæterum hujusmodi præsentiam apud nonnullos
 “controversam adimi dubietas possit, demonstrabam in
 “subjecto muliebri mense Februarii fluentis anni Clar. D.
 “D. Doctoribus Claverotto, Vaccherio, Pelletta, Massola,
 “cœtuique auditorum meorum numero. Figuram, instar
 “aliarum grandiorum omnium, semilunarem ducit hæc
 “valvula; ut ideo semilunaribus aortæ, aut sigmoideis
 “pulmonaris arteriæ æquata proportione molis, æquiparari
 “consulto possit.” Notwithstanding this plain description of a valve, or sphyncter, at the termination of the nasal duct in the nose, Winslow, who published his exposition of the structure of the human body seventeen years after the date of Bianchi’s epistle, and in it gives a very accurate description of the organs of sight and smell, takes no sort of notice of such a valve, and only says, that he has sometimes seen the membrane which lines the duct relaxed and folded. He adds as his opinion, that this appearance was

* *Memoirs et Observations sur l’Œil*, Lyon, 1772, page 105.

† *Ductuum Lachrymalium novorum Epistolaris Dissertatio*, Joanne Baptista Bianchi, Taurino, 1715, page 26.

lachrymal sac ; and by some it has been supposed to prevent the tears also from descending

the effect of disease, and not the natural state of the part.* Messrs. Pott, Warner, Wathen, Bell, and many other authors, whom I have consulted on the subject, are entirely silent as to the existence of any valve, or sphincter in this part. Zinn, however, the first edition of whose tract on the eye was published in the year 1755, appears to have attended more accurately to the mode in which the duct terminates ; and in the following words he corroborates the observation that had before been made by Bianchi. “ Ductus nasalis in nares patet orificio ita oblique resecto, “ uti fere ureteres in vesicam se immittunt, quod orificium “ præterea aliqua ex parte clauditur plica membranæ semulunari libera, ut aliquam valvulæ speciem exhiberi “ videatur.”† I have examined a considerable number of heads, of persons deceased, in order to obtain satisfaction on this subject ; and I always found, when the Os Spongiosum inferius remained in its natural position, that the two sides of the membrane which terminated the duct lay flat on the side of the Os Maxillare, very near to each other ; and the aperture into the duct was scarcely perceptible. But when the Os Spongiosum was drawn from the side of the Os Maxillare, the aperture became plainly visible, of an oval shape, and appeared to be bounded, as both Bianchi and Zinn have described it, by a membranous fold, the longest diameter of which extended from above downward. The fold was perceptible in all the heads I

* Exposition Anatomique de la Structure du Corps Humaine, à Paris, 1732, Chapitre de la Tête, No. 349.

† Descript. Anatom. Oculi Humani, Gottingen, 1755, Cap. xiii. Sect. iv.

examined,

ing too rapidly through the duct into the nose. Now when the membrane which lines the duct is stimulated by any cause, it is far from being unlikely that this fold of it should contract; in consequence of which the passage of the tears through the duct will be either partially or wholly intercepted by it.

If a membranous stricture be the sole cause of the Epiphora, the disorder is usually confined to an accumulation of tears in the lachrymal sac, and to the regurgitation of those tears through the puncta lachrymalia, when either the sac is unable to contain more, or when external pressure is made to empty it. In this state it has been called, with some propriety, by French authors, *une hydropisie du sac lachrymale*.* But if either of the other causes

examined, but was longer in some than in others; and consequently the aperture bounded by it was not always equal in size. In general, it was situated near the anterior extremity of the Os Spongiosum inferius; but sometimes it lay further back in the nose, near the posterior extremity, and under the upper edge, of this bone.

* It not unfrequently happens, that the projection which appears on the side of the nose, near the inner angle of the

the

causes I have mentioned occasion the retention, the fluid that regurgitates through the puncta will be mixed with inspissated mucus; and, in general, the eye-lids will be gummed together when the patient awakes in the morning.

It ought, however, to be remembered that when the sebaceous glands on the edges of the eye-lids are diseased, the eyes are almost always in a state of irritability; and if they happen to be exposed to an unusual degree of wind, of light, or of heat, a considerable flux of tears will often be excited, (though there be no obstruction in the lachrymal canal,) which not only obscures but weakens the sight.* It is necessary to distinguish this case

the eye-lids, in consequence of the retention of tears in the lachrymal sac, may be removed by a slight pressure of the finger upon it; the retained fluid quickly and almost instantaneously passing into the nose. This circumstance appears to me to corroborate the opinion above-advanced, that the stricture, which retains the tears, is sometimes confined within a small space; and, in such cases, I think it highly probable, that it is situated in the fold of the membrane above-described.

* An Epiphora may also undoubtedly take place in consequence of a disease in the glandula lachrymalis alone, without any affection of the neighbouring parts; but I believe this to be a very rare occurrence.

from

from an obstruction in the lachrymal canal, because it requires a very different mode of treatment. In the former, for instance, the remedies must be chiefly applied to the edges of the eye-lids, in order to amend the secretion from the ciliary glands; in the latter, the ciliary glands being undiseased, applications to them can answer no good purpose, and the chief object in view is to obtain a free passage for the tears through the duct into the nose.

Having made these remarks on the different proximate causes of the Epiphora, I now proceed to consider the most effectual modes of cure. And here I beg leave to observe that whether the disorder be produced by the lodgement of inspissated mucus in the cavity of the nasal duct, by the tumefaction of the membrane which lines this duct, or by a spasmodic constriction in any part of its extent, in either of these cases, the introduction of a remedy to the seat of the disease, by means of a syringe, whose pipe is of a size suited to enter into the inferior punctum lachrymale, is not only very practicable, but I have often found highly beneficial.

With

With regard to the sort of injection that is most proper on these occasions, I formerly made use of plain river water, sometimes warm, and at other times cold. In the use of this, it was my principal intention, to act mechanically on the obstruction, and, by means of the moderate force with which the water was injected, to propel into the nose any inspissated mucus that might lodge in the duct, and impede the descent of the tears through it. By this mode of treatment alone, I had the satisfaction to accomplish a cure in a considerable number of cases; but it did not afford equal relief in all. The failures to which I was occasionally subject, induced me to extend my inquiries into the different causes which might lay a foundation for the disorder; and if the three above-mentioned are just, it will follow, that the same remedy cannot always be equally successful; and that an application which in one case might have proved highly useful, in another might be found wholly ineffectual.

When, for instance, the obstruction to the passage of the tears is produced solely by the
lodgement

lodgement of inspissated mucus in the nasal duct, and is unaccompanied by any tumefaction in the membrane which lines this part, the injection of warm water, or indeed of any other liquor, is sufficient, merely by its mechanical power to remove the mucus, and accomplish a cure; but, when the lodgement of inspissated mucus is accompanied with a tumefaction of the membrane which lines this duct, the injection of warm water alone might rather tend to increase the tumefaction; and, in such cases, vitriolic, or saturnine applications, seem better adapted to answer the intention of cure. These may be assisted by taking away a small quantity of blood from the vessels, near the lachrymal sac, either by the application of a leech, or by puncturing the angular vein. When, again, the obstruction is occasioned by a spasmodic constriction in some part of the lachrymal canal, astringent applications may rather tend to increase the constriction; and the remedies that seem indicated are, on the contrary, of a relaxing and sedative nature.

It is not easy, however, at all times, to discover

cover the precise cause of the obstruction, and, in consequence, we cannot always immediately ascertain the peculiar mode of treatment that ought to be adopted. Although, for instance, the lodgement of inspissated mucus in the lachrymal sac is often accompanied by a tumefaction of the membrane which lines the nasal duct, it may also take place without any such tumefaction: and although a spasmodic constriction in a part of the nasal duct, may only produce at first a retention of tears in the lachrymal sac, without altering the consistence of the mucus secreted by it, yet the tears, being retained, will necessarily acquire some degree of acrimony, and these, irritating the sac, will soon produce an inspissation of the mucus secreted by it.

Under the uncertainty, therefore, to which in these cases we are unavoidably subject, I in general begin the treatment by injecting some warm water through the inferior punctum lachrymale, and I repeat the operation four or five days in succession. If in this space of time, none of the water pass through the

duct into the nose, and if the watering of the eye continue as troublesome as it was before the injection was employed, I usually open the angular vein, or direct a leech to be applied near the lachrymal sac; adding, in this last case, a caution that the leech be not suffered to fix on either of the eye-lids, lest it produce an extravasation of blood in the adjacent cells.* About the same time that blood is taken away in the neighbourhood of the eye, I usually vary the injection, and try the effects either of a weak vitriolic, or anodyne lotion. In some instances when I have found it impossible, after several attempts, to inject any part of the liquid through the duct, I have introduced a golden probe, about the size of a bristle, through the superior punctum lachrymale, and, attending to the direction of the duct, have insinuated its extremity through the obstruction, and conveyed it fully into the nose; im-

* This accident, after the application of a leech either on the upper or the lower eye-lid, is not uncommon; and though it be not attended with any danger, yet the discoloration and tumefaction it occasions, are extremely unpleasant, and they sometimes remain many days.

mediately

mediately after which I have found, that a liquid, injected through the inferior punctum has passed without any difficulty; and by repeating these operations, for a few successive days, I have at length established the freedom of the passage, and completed the cure. In other instances, I have recommended a strongly stimulative sternutatory to be snuffed up the nose, about an hour before the time of the patient's going to rest, which, by exciting a large discharge from the schneiderian membrane, has sometimes also greatly contributed to open the obstruction in the nasal duct.

Cases occur very rarely which may not be relieved by some of the means above related. It ought, however, to be mentioned, that the Epiphora is sometimes occasioned by a polypous tumour in the nose, obstructing the inferior aperture of the nasal duct; in which case, being a secondary disorder, it can only be relieved by the removal of the polypus that occasions the obstruction. So likewise when the Epiphora is accompanied with an Ozæna,

this latter disorder must be removed before the cure of the former can be accomplished.

There is one other remedy for the Epiphora, recommended by ancient as well as modern writers, of which it will be proper for me to take some notice. I mean, the application of a constant gentle pressure, over the lachrymal sac, in order to prevent its further distention, and to increase its tone and elasticity. The only cases, in which it seems probable that this remedy will prove effectual, are those in which the obstruction is so slight, that though the tears are retained in the sac, yet a small degree of pressure is sufficient to propel them through the duct into the nose. The application of the finger on the sac is perhaps the most accurate mode in which pressure can be made. But as it cannot be continued in this way for any great length of time without inconvenience, an instrument to supply the place of the finger has been invented by several surgeons; of which representations may be seen in the works of Heister, Gooch, and some others.

others. In my own practice, I have seldom found such pressure useful; and it scarcely need be added, that if the obstruction be so considerable, that nothing will pass through the duct into the nose, it is impossible, that external pressure, however applied, can be of essential service.

It not unfrequently happens, that the fluid collected in the lachrymal sac, though capable of being propelled into the nose by external pressure, has a very offensive taste and smell. In some such instances, the bone behind the duct has been much diseased, and the cure, of course, has been slow. In others the discharge has been speedily corrected by injecting daily through the sac a warm vitriolic lotion; by persevering in the use of which, the sac has sometimes also acquired, in a short time, its proper tone, and the accumulation has been prevented in future.

When an Epiphora is occasioned by an acrimonious discharge from the sebaceous glands on the edges of the eye-lids, it must be evident, that injections into the sac will be very
insufficient

insufficient to accomplish a cure, because the sac is not the seat of the disorder. The remedies that are employed must be directed, on the contrary, to the ciliary glands themselves, in order to correct the morbid secretion that is made by them ; and for this purpose, I do not know any application that is so likely to prove effectual as the Unguentum Hydrargyri Nitrati, of the new London Dispensatory, which should be used here in the same manner in which it is applied in common cases of the Psorophthalmy. It will be proper to cleanse the eye-lids every morning, from the gum that collects on their edges during the night, with some soft unctuous application ; and I usually advise to apply to them two or three times in the course of the day a lotion composed of three grains of white vitriol, in two ounces of rose, or elder-flower water. I beg leave, however, to offer a caution against the mode in which eye-waters are too frequently used, viz. by moistening a piece of linen with them, and applying it over the lids. When used in this way, it often happens, that not one drop of
the

the lotion comes in contact with the parts principally affected ; and I leave it to the most common observer to determine, whether it be possible for an inflamed eye, and much less for a diseased lachrymal sac, to receive benefit from the best contrived remedies so applied. The manner in which I generally recommend such lotions to be used is either in an eye-glass,* so suited to the shape of the eye that it will allow the liquor to go directly to the part affected, or else by means of a camel's hair pencil, which being thoroughly wet with the water, is applied to the edges of the lids in such a way that the water may certainly insinuate itself between them and the globe of the eye. In those cases where it is desirable to have a part of the lotion conveyed into the lachrymal sac, it is particularly proper to attend to the direction now given ; and in addition to this, the head should be reclined on the opposite side, in order that the water may

* An eye-glass may be purchased at almost every glass or china shop in London.

collect in the inner angle of the eye-lids; the lids being repeatedly opened and shut to assist its absorption, by the puncta lachrymalia.

I have now finished all the remarks which I purposed to make on the subject of the Epiphora. I beg leave to relate the few following cases; the treatment of which will be found, somewhat different from that which was used in the cases of Epiphora, described in page 329 et sequentes.

CASE I.

Mrs. H. about 25 years of age, applied to me on the tenth of August 1792, on account of an Epiphora of the right eye, which had continued upwards of three years. It had been preceded by several styes on the edges of the eye-lids, one of which was situated close to the inferior punctum lachrymale. This like the rest broke, and healed in the usual way; but the obstruction in the lachrymal duct commenced

commenced soon afterwards ; and during the last three months, the watering of the eye had been almost incessant, and, in a great degree, had disabled the patient from attending to any sort of employment. On pressing the sac with my finger, I brought through the puncta lachrymalia a glary fluid, which was almost transparent, having much less of a purulent appearance than it usually has in this disease. I immediately injected some warm water through the inferior punctum, and was surprised to find that it passed freely both into the nose, and throat. The injection was repeated several times in the course of the next fortnight ; but at the end of this time, though the Epiphora was much diminished, it was still often troublesome ; and whenever I examined the eye, a small quantity of glary mucus was always found in the lachrymal sac. I now varied the injection, and, for this purpose, made use of a solution of three grains of white vitriol in two ounces of distilled water. The next day the patient informed me, that the injection, last used, had made her eye very uneasy for a short time,

time, but that when the pain went off, the eye felt stronger, and the watering was much less troublesome than it had before been. The quantity of mucus collected in the lachrymal sac was also considerably diminished. I repeated the use of the vitriolic injection four times in the following week; after which the watering wholly ceased, and the eye became quite well.

CASE II.

M. C. about 40 years of age, who had been troubled with an Epiphora of the left eye between two and three years, and whose sight, during the greater part of this time, had been rendered very imperfect by an almost constant accumulation of tears on the surface of the Cornea, was attacked, in June 1792, with an inflammation of the integuments that covered the lachrymal sac, which, in a day or two afterwards, swelled, and became very painful. The tumefaction continued to increase from the eighth

eighth till the twelfth of June, when I first saw her. At this time neither tears nor mucus could be made to regurgitate through the puncta lachrymalia, on compressing the sac; and the swelling was so considerable, that an attempt to hinder it from suppurating, appeared to me to be in vain. In order, therefore, to hasten its termination in this way, I directed a warm bread and milk poultice to be applied immediately, and to be renewed three times a day. On the fourteenth, notwithstanding the inflammation and swelling continued as before, there did not appear to be any advance in the suppuration. I therefore varied from my first plan, and recommended a leech to be applied directly over the sac; adding a caution, that it should not be suffered to fix so near the edge of the lids, as to cause an Ecchymosis in the cellular membrane of this part. The leech drew blood freely, and gave immediate and considerable ease. I now intended to omit the use of the poultice, but, my directions on this subject being misunderstood, it was repeated, as before, when the hæmorrhage ceased; and

as the application seemed afterwards to agree, I desired that it might be continued. On the sixteenth, another leech was applied on the sac, and the next day the tumor was still further diminished. The patient took a purgative draught this morning. On the eighteenth, I injected some warm water through the inferior punctum lachrymale, and a small portion of it passed through the duct into the throat. The watering of the eye was much less troublesome afterwards, than it had been for many months. The next day I repeated the use of the injection; and almost the whole contents of the syringe now passed either into the nose, or throat. On the twenty-first, and twenty-third, the injection was again repeated with similar success. After this, the swelling of the sac entirely subsided, the watering ceased, and the eye became perfectly strong and useful.

CASE III.

Miss S. about 10 years old, was brought to me in February 1793, on account of an Epiphora of the left eye, which had been troublesome between three and four years, and of late had become much worse, in consequence of her having had the small-pox of a confluent sort. Several remedies had been tried without affording her any relief. At this time the lachrymal sac was filled with a thick white mucus, and the tears ran down the cheek almost continually. I recommended to inject some warm water through the inferior punctum lachrymale; which operation, was performed daily, for some time, by a surgeon in the country; but as it did not render her any benefit, she was brought to town, and committed entirely to my care. I began by adopting a similar method; injecting, for the first week, warm water alone, and afterwards a warm vitriolic lotion, for another week; but as it did not
appear

appear that any of the liquor passed, during this time, into the throat or nose, and as the Epiphora continued still troublesome, I directed a leech to be applied over the lachrymal sac. The hæmorrhage produced by the leech was considerable, but, notwithstanding, the obstruction still remained. I therefore introduced a small golden probe, through the superior punctum, and, by following the course of the duct, carried its extremity through the obstruction into the nose. It was left in the duct about a minute, and then retracted; after which I injected some warm water through the inferior punctum, and had the satisfaction to find that a part of it passed into the throat and nose. The probe was introduced several days in succession; and although, previously, none of the water injected by the punctum would pass into the nose, it went, each day, afterwards without any difficulty. The operation of passing the probe was at first painful; but, on the second, and subsequent introductions, the pain was considerably less severe. In a few days after the injected liquor had passed into
the

the nose, the watering of the eye greatly diminished; but still a considerable quantity of purulent matter was collected every morning in the lachrymal sac. On this account I varied the injection, and instead of warm water alone, employed, for this purpose, as at the beginning of my attendance, a weak solution of white vitriol. This was injected daily, for about three weeks; and then every second, or third day, for a fortnight longer. The quantity of mucus collected in the sac, after this, was very inconsiderable, and the Epiphora gave so little trouble, that the handkerchief was scarcely ever needed to wipe a tear away.

CASE IV.

In March 1793, I was consulted by Mr. W. in Titchfield-street, on account of his daughter, about 11 years old. She had been attacked with the small-pox, whilst an infant, during which disorder her eye-lids had been glued together for many days. When they were
opened,

opened, the right eye was found to be affected with considerable inflammation, which was not subdued without much difficulty. After its removal, an Epiphora remained; the tears that flowed over the cheek being generally mixed with a thick mucus. In this state the disease continued, till within a short period of the time at which I was consulted; when the smell of the mucus becoming highly offensive, it gave great reason to fear, that the bone behind the duct was carious. I immediately injected a vitriolic lotion through the inferior punctum lachrymale; but the whole of the liquor regurgitated through the superior punctum, and brought with it a considerable quantity of the putrid matter above-mentioned. A similar lotion was directed to be applied frequently, by means of a camel's-hair pencil, to the inner angle of the eye-lids; and their edges were touched with the Unguentum Hydrargyri Nitrati, in order to correct an acrimonious humour which seemed to be secreted by the glandulæ ciliares. To assist in accomplishing the same purpose, I prescribed half a grain of

Calomel to be taken constantly, night and morning. The injection was daily repeated, and the whole plan regularly pursued, for ten days; at the end of which time the smell of the discharge became much less offensive; but the watering of the eye was nearly as troublesome as when I first saw her. I now passed a golden probe through the superior punctum, and it went with very little difficulty through the nasal duct into the nostril. The vitriolic lotion was afterwards injected; part of which immediately passed through the duct, and was discharged on the handkerchief when the patient blew her nose. The next day I tried to inject the lotion without passing the probe,—but could not succeed, until this instrument had been first introduced. I pursued a similar mode of treatment daily for a week, and afterwards omitted the use of the probe, and employed the injection alone. This was continued every second day for three weeks longer, the liquor each time passing through the nose, if the head was held forward, or into the throat if held backward. After this time the watering

of the eye wholly ceased; but the vitriolic lotion was still continued, as an eye-water, on account of the mucus, a small portion of which was occasionally collected, when she awoke in the morning, in the lachrymal sac. It was now, however, perfectly free from any smell, and, when collected, the patient was able to press it into the nostril, by means of the finger applied on the sac.

CASE V.

The daughter of Mr. C——, about nine years old, was brought to me in August 1794, on account of a constant watering of the right eye, and a frequent accumulation of matter upon it. The disorder had continued above nine months, and appeared at first to be the consequence of a common cold. On compressing the lachrymal sac, a considerable quantity of the same matter that appeared on the eye regurgitated through the puncta lachrymalia. I endeavoured to inject some warm water through

through the inferior punctum into the nose ; but none of it would pass. I therefore recommended to wash the eye frequently with a vitriolic lotion, and prescribed a sternutatory powder to be snuffed up the right nostril every evening. On the third day some warm water was again injected through the inferior punctum ; but still the whole of it was either retained in the sac, or regurgitated through the puncta. I now directed a leech to be applied on the integuments of the sac, and recommended the vitriolic lotion, and sternutatory powder to be continued as before. On the fifth day, on injecting the water through the inferior punctum, a part of it passed into the throat. The same remedies were continued as before. On the seventh I injected a warm vitriolic lotion, and the whole of it passed either into the throat or the nose. The sternutatory powder and vitriolic lotion were still continued. I repeated the use of the same injection three or four times afterwards, and had the satisfaction, each time, to find that the whole of it went properly through the duct.

After this the watering of the eye, and the discharge of matter from it, wholly ceased, and the sight became perfectly strong and useful.

CASE VI.

In the beginning of the winter 1793, a lady was attacked, during the time she had a violent cold in her head, with an Epiphora of the right eye; which, after remaining troublesome many months, at length abated in a considerable degree without the use of any particular remedy. The tears, however, still collected occasionally in the lachrymal sac, and continued to accumulate, until they either regurgitated through the puncta in consequence of the sac's being unable to contain more, or were pushed through the nasal duct by the pressure of the finger. The patient was obliged to have recourse to this last-mentioned mode of obtaining relief many times in the course of the day. In June 1794, in consequence of a fresh cold,

cold, the passage through the nasal duct became wholly closed; and when the sac was compressed, the retained tears, instead of passing down, regurgitated through the puncta, and flowed over the eye; being frequently mixed with a very offensive matter. After the eye had been in this state about a fortnight, the lady applied to me. I injected some warm water several times through the inferior punctum into the sac, in hopes that a part of it might pass through the duct into the nose; but the whole was, each time, either retained in the sac, or returned through the superior punctum. I afterwards directed a leech to be applied over the sac; and a strong stimulating powder, to be snuffed up the right nostril every evening. The leech produced a copious bleeding; and the snuff not only excited a considerable discharge from the nose, but induced several very violent fits of sneezing. No immediate good effects were perceived from the application of the leech; but after the snuff had been taken about three times, the inferior aperture of the nasal duct became
pervious;

pervious ; so that when a pressure was made on the sac, its contents passed into the nostril, instead of regurgitating, as before, through the puncta lachrymalia. I injected some warm water through the inferior punctum ; the whole of which was still retained in the sac, until by the pressure of the finger, externally applied, it was forced through into the nose. The eye was now brought to the same situation, in which it had been for several months before the patient caught her last cold ; and it continued without any material alteration about a fortnight longer ; when, upon her taking a fresh cold, the inferior aperture of the duct became again obstructed, and all the old symptoms returned. I recommended the re-application of a leech ; and a return to the use of the sternutatory powders. By these means in a few days the obstruction in the duct was again removed ; and warm water injected through the inferior punctum passed with more freedom than it had before done, since the commencement of her illness, into the nose. The injection was repeated every day for a fortnight ;

fortnight; and during this time the patient frequently inhaled the steam of an infusion of chamomile flowers through the affected nostril. This with a continued use of the injection and snuff, speedily produced the wished for effect. The retention of tears in the sac was daily less; and in a short time the Epiphora ceased, and the eye became well.

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OBSERVATIONS
ON THE
TREATMENT
OF THE
FISTULA LACHRYMALIS.

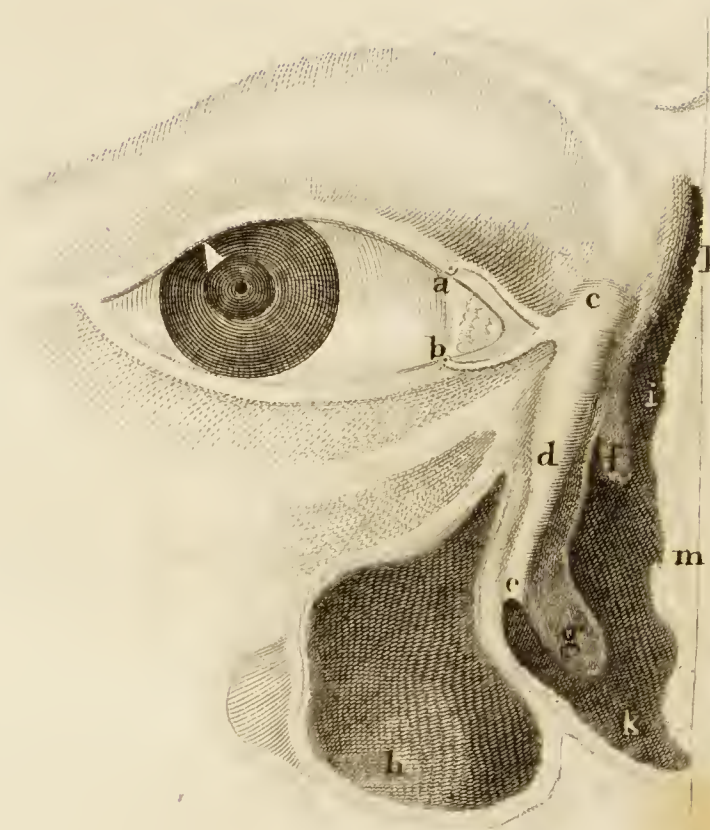


Fig. 2



Fig. 1

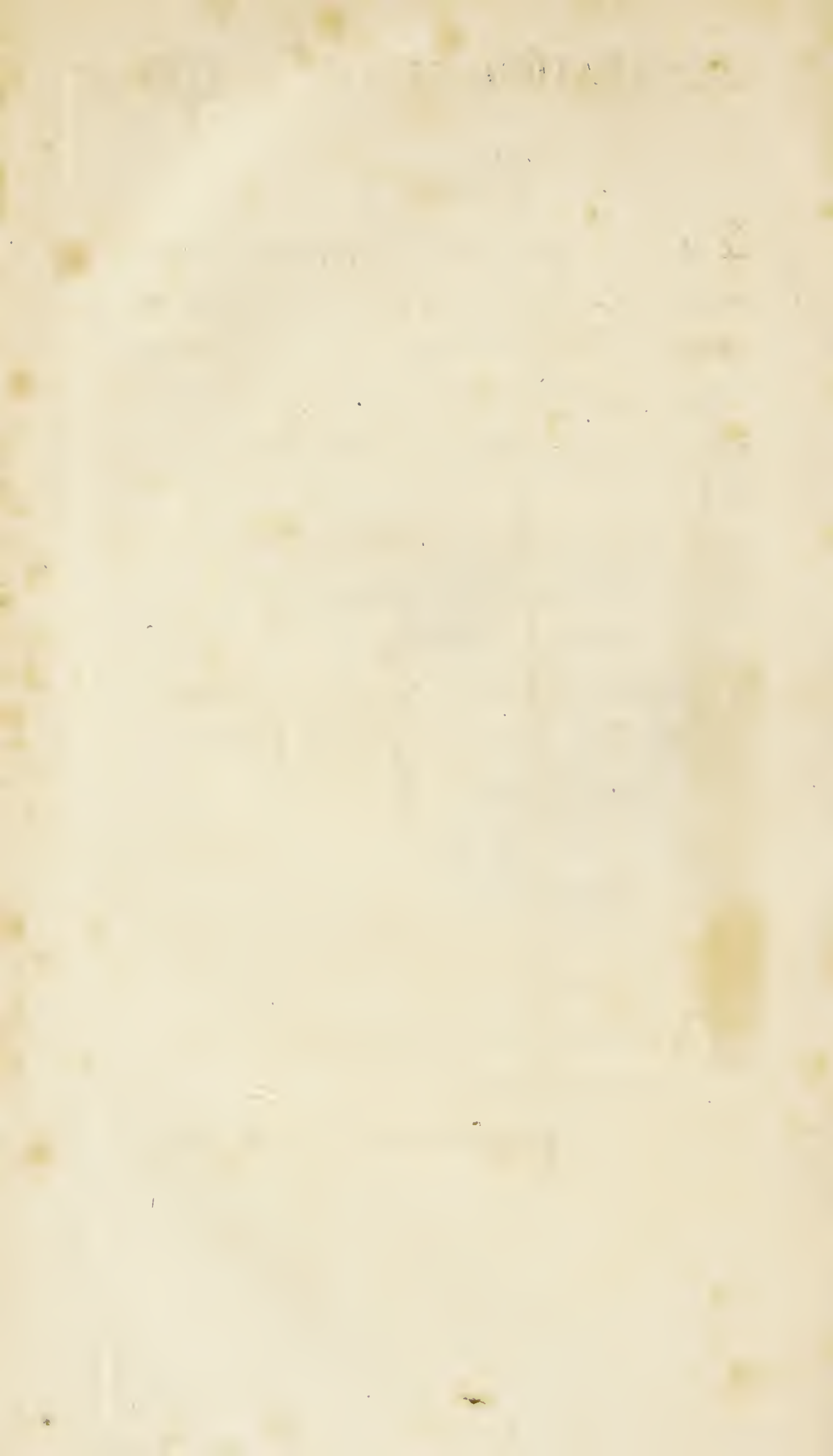


Fig. 3



Fig. 3





EXPLANATION OF THE PLATES.

PLATE I.

THE view of a vertical section of the right side of the face, in a line with the third of the Dentes molares; in order to shew the position of the lachrymal canal anteriorly, and in its situation, with respect to other parts of the face

a. b. The Puncta Lachrymalia.

c. d. The Sacculus Lachrymalis.

d. e. The Ductus Nasalis.

e. The termination of the Ductus Nasalis.

f. A vertical section through the superior Os Spongiosum.

g. A vertical section through the inferior Os Spongiosum.

h. A vertical section through the Antrum Highmorianum.

i. k. A vertical section through the cavity of the right nostril.

l. m. A vertical section through the Septum Nasi.

PLATE

PLATE II.

Fig. 1. A view of a spear-pointed lancet, recommended, page 401, for the purpose of puncturing the lachrymal sac.

Fig. 2. A view of the probe, mentioned also page 401. Its blunt end is of use to open an obstruction in the nasal duct ; and its sharp end has sometimes been employed to make a perforation through the thin part of the Os Unguis.

Fig. 3. A front and side view of the Style that is recommended, page 402, for the purpose of being inserted in the nasal duct, or carried through a perforation in the Os Unguis.

* * * These instruments may be procured from Mr. Pepys, Surgeon's Instrument Maker, in the Poultry, or from Mr. Savigny, in King-street, Covent Garden.

Directions for placing the Plates.

<i>Fistula Lachrymalis, plates I. and II.</i>	p. 379
<i>Catheter</i>	465

*Observations on the Treatment of the Fistula
Lachrymalis.*

IT is well known by surgeons, that a free communication through the lachrymal canal, by which the tears may pass from the eye to the nose, is essentially necessary to the enjoyment of a perfect sight. Every degree of obstruction in this canal has a tendency to impair and weaken vision. When it occasions only a watering of the eye, and a consequent necessity of wiping away the effused tears, the disorder is described by authors under the denomination of Epiphora ; but when a fluid resembling pus is accumulated in the lachrymal sac, which fluid regurgitates through the puncta lachrymalia, when the sac is compressed, or when it is too full to contain more, it is more usually denominated a *Fistula Lachrymalis*. In consequence of an accumulation of this purulent fluid in the cavity of the sac, an inflammation

mation not unfrequently takes place in the integuments which cover it; and this inflammation usually terminates in a suppuration, which varies much in its extent in different instances, according to the length of time the suppurative process has been suffered to proceed, before the matter is discharged. Sometimes it is so large as to occupy the whole of the eye-lids, and at others so small as only to affect the sac itself; and in both it is highly improbable that a cure of the disorder should be accomplished, without the use of means, not only to open the obstruction in the nasal duct, but to hinder a return of the obstruction afterwards.*

Prior to the year 1781, the authors whose publications on the *Fistula Lachrymalis* prin-

* A few instances have come under my notice, in which, after an Epiphora had continued many years, an extensive suppuration has taken place in the lachrymal sac, and the integuments which cover it; and when the matter which was accumulated has been discharged, the tumefaction has subsided, the wound has healed, and the tears have resumed their natural course. A termination of the disorder, however, in this easy way, must not be considered an usual occurrence.

cipally

cipally attracted the notice of the faculty in this country, and by whose directions their practice for many years was chiefly regulated, were Mr. Pott and Mr. Warner; of whom the former published a treatise professedly on this subject in the year 1758; and the latter introduced a tolerably full account of it in his “Description of the Human Eye, and the Disorders to which it is subject;” which work first appeared in the year 1773.

In order more clearly to shew the difference between the treatment proposed by these gentlemen, and that which I mean to recommend, I beg leave to introduce the following brief abstract of the observations they published on the subject now before us.

When the lachrymal sac and the integuments which cover it are inflamed and distended, Mr. Pott recommends to make an opening into the cavity of the cyst from the upper to the lower extent of the tumor; and afterwards to dilate the wound either with lint, or prepared sponge, in order to give an opportunity of ascertaining the state of the sac and duct. If, after a free
discharge

discharge has been made for some days, and the inflammation occasioned by the first operation is gone off, the sac does not contract, and the lachrymal fluid resume its wonted course, Mr. Pott recommends to dilate the passage from the sac to the nose, by some means which will gradually distend it, without destroying its texture ; in a way similar to that in which the dilatation of the Urethra is effected, in the case of strictures, by passing either a probe, a piece of catgut, or a bougie, gently into it, as far as it will easily go, and repeating the operation occasionally until it has got quite through, and the passage is free. And if the natural passage from the lachrymal sac to the nose be so diseased as to be quite closed up, Mr. P. directs to attempt the formation of an artificial passage, by making a breach in the thin part of the Os Unguis with a curved trocar of a suitable size. Mr. P. adds, “ as
“ soon as the perforation is made, a tent of
“ lint should be introduced of such a size as to
“ fill the aperture, and so long as to pass
“ through it into the cavity of the nose. This
“ should

“ should be permitted to remain in, two, three,
“ or four days, till the suppuration of the parts
“ renders its extraction easy ; and, after that,
“ a fresh one should be passed every day, until
“ the clean granulating appearance of the sore
“ makes it probable that the edges of the
“ divided membrane are in the same state ;
“ the business now is to prevent the incarna-
“ tion from closing the orifice, for which pur-
“ pose the end of the tent may be moistened
“ with spiritus vitrioli tenuis: or, a piece of
“ lunar caustic, so included in a quill as to
“ leave little more than the extremity naked,
“ may at each dressing, or every other, or every
“ third day, be introduced, by which the gra-
“ nulation will be repressed, and the opening
“ maintained ; and when this has been done
“ for some little time, a piece of bougie of a
“ proper size, or a leaden canula, may be in-
“ troduced instead of the tent ; and leaving
“ off all other dressings, the sore may be suf-
“ fered to contract, as much as the bougie will
“ permit, which should be of such length,
“ that one extremity of it may lie level with
“ the

“ the skin in the corner of the eye, and the
 “ other be within the nose.

“ The longer time the patient can be pre-
 “ vailed upon to wear the bougie, the more
 “ likely will be the continuance of the opening;
 “ and when it is withdrawn, the external ori-
 “ fice should be covered only by a superficial
 “ pledget, or plaster, and suffered to heal under
 “ moderate pressure.” *

Mr. Pott concludes his observations in the following cautious manner: “ I must again re-
 “ peat what I have said before, that there is no
 “ method of treating this disorder which is
 “ infallible, and none that will absolutely and
 “ in all cases prevent a return, especially in
 “ scrophulous habits: yet when a just distinc-
 “ tion is made between those cases which are
 “ in their own nature incapable of cure, and
 “ those which by being improperly treated are
 “ not cured, I am inclined to believe that the
 “ number of the former will be found much
 “ smaller than it is generally imagined to be.” †

Mr. Warner's observations on the *Fistula*

* Pott on the *Fistula Lachrymalis*, p. 68. † Ibid, p. 70.

Lachrymalis are much shorter than those made by Mr. Pott. He says, " This malady is seldom or ever curable by any other means than by operation; and the mode of operating must be different under different circumstances. If the lachrymal sac and its integuments be distended with only a small degree of inflammation, and thinness of the skin, a single incision made with a small sharp round pointed knife, and carried from the upper to the lower extent of the tumor, quite down into the cavity of the cyst, will sometimes be found sufficient for the purposes of applying proper dressings to the bottom of the diseased sac. But where the skin is much lifted up, and is grown thin and discoloured, from a large quantity of matter that has long been deposited and confined in the sac; or where the integuments have burst and are become callous, and the natural colour of them is altered to a mixture of paleness and lividness, it will be found expedient, in the first instance, to remove an oval piece of the integuments

“ and sac, by making the incisions equally
 “ long with the distended skin, and of such a
 “ breadth, as will admit of a removal of the
 “ greatest part of the diseased integuments
 “ and sac: and in the second instance, the
 “ whole of the callous integuments, together
 “ with the upper part of the lachrymal sac,
 “ must be cut away at the time of operating,
 “ to afford us all the advantages of the pro-
 “ per treatment of an hollow ill-conditioned
 “ sore.”*

It is somewhat remarkable that Mr. Warner
 does not say one word in any part of his book
 on the propriety of attempting to open the
 obstruction in the nasal duct; of the practica-
 bility of which it may from hence be presumed
 he was either uninformed or incredulous; and
 he recommends to perforate the Os Unguis,
 in all those cases where the disorder cannot be
 cured by the operations that have been just
 mentioned. He says, “ By some it is advised
 “ that the process of perforating the Os Un-

* Warner's Description of the Human Eye, &c. 2d
 Edit. p. 18.

“guis should not be put in execution when
“this bone does not appear to be carious, the
“true characteristic of which is its being di-
“vested of its Periostæum. But I must dis-
“sent from this opinion, since I have several
“times learnt from experience, that there is
“no curing a disease of this kind without de-
“stroying the Os Unguis, at least in part,
“even when that bone is not denuded and
“carious.”*

The perforation through the Os Unguis, Mr. Warner says he has often made with the edge of his incision knife; and if a trocar be thought necessary for this purpose, he advises that it be not much curved, lest its point be brought so much forwards and outwards, as to strike the nasal process of the superior maxillary bone. Mr. Warner adds, that after the perforation is made, it is his custom to introduce a small long sponge tent through the wound into the nostril, and to continue the use of it ten or twelve days, or longer, as he sees necessary. He makes use of a thin soft injection

* Warner on the Human Eye, p. 20.

once or twice in the day, whenever he dresses the wound, in order to keep the parts clean and open quite into the nostril; and when, from the free passage of a probe or bougie, the opening appears to be sufficiently confirmed, he employs soft tents of lint for a week or ten days longer, applying them carefully to the bottom of the wound, and touching the sprouting and loose flesh occasionally with the lunar caustic. This he continues to do till he is satisfied of there being no more discharge from the wound than there ought to be from any other wound of the same size; after which he only covers it with a superficial dressing, and suffers it to heal. Mr. Warner adds, that “after the wound is healed, the tears in some
“will not be any longer troublesome by their
“falling upon the cheek, whilst in others,
“they shall continue to be so in a small de-
“gree.”

The above directions on the Treatment of the Fistula Lachrymalis, as given by Mr. Pott and Mr. Warner, are those which, I believe, were principally regarded by the surgeons of
this

this country for many years prior to the year 1781.

About this time, Mr. Wathen, having met with repeated disappointments in his attempts to cure the disorder, by pursuing the modes which were recommended by these gentlemen, determined to try the effects of introducing a metallic tube or canula into the nasal duct, with a view not only to form a communication between the eye and the nose, but, by suffering the wound to heal over the instrument, to hinder the obstruction from returning afterwards. This idea of Mr. Wathen differed from that of Heister, (as mentioned in his *System of Surgery*, part ii, chapter 54,) principally in the position of the instrument; Heister proposing to insert it into a perforation of the *Os Unguis*, whereas Mr. Wathen conceived that it might be made more useful if placed in the natural nasal duct. He accordingly made the experiment in the way above-mentioned, and the success which attended it was so speedy, and appeared to be so complete, that both he and I, who for some years before and after

after this period were connected together in practice, repeated the operation in a great variety of instances, and almost universally accomplished by means of it a perfect and speedy removal of every unpleasant symptom. The tears resumed their natural course, the wounds healed, and the sight became both clear and strong. These flattering prospects, however, did not continue a great length of time; difficulties were soon experienced which gave both Mr. Wathen and myself much uneasiness as well as trouble. The tubes not unfrequently changed their position in the duct: sometimes they rose too high; at other times they sunk too low; and in consequence of these accidents the tears became again obstructed, and all the old symptoms returned. In some instances the disappointment was experienced within a short period after the tubes were introduced; in others the patients continued well several weeks, and sometimes several months, before any alarm arose. A return of the disorder, however, occurred so frequently, that for several years prior to the termination of our partnership

partnership, which took place in the year 1790, neither of us placed any considerable degree of dependence on this mode of treating the disorder.

In the beginning of the year 1785, Mr. Bell, of Edinburgh, published the third volume of his *System of Surgery*, and in it introduced his remarks on diseases of the eyes. His observations on the *Fistula Lachrymalis* do not differ in any material points from those which were made by Mr. Pott. Towards the close of his remarks, Mr. Bell briefly mentions the proposition, that had been made by former authors, of inserting a metallic tube or canula either into the natural nasal duct, or into a perforation made through the *Os Unguis*, for the purpose of preventing a return of the disorder, and insuring the cure; but when this volume was published, he does not seem to have had any great experience of their efficacy in either of these ways of employing them.

In the year 1787, Mr. Bell published a fourth volume of his *System*; and in it unexpectedly gave an additional chapter on the diseases of

the eyes. His chief motive for doing this, appears to have been to introduce an account of some supposed improvements in their treatment, which had been made by Monsieur Jean François Pellier, a French oculist, with whom he became acquainted after his third volume had been published. Among a variety of observations relative to these diseases, he added several on the *Fistula Lachrymalis*, and introduced them with the following mortifying acknowledgement: “ It seldom happens that any
“ permanent advantage is obtained from the
“ remedies applied in this disorder, and even
“ they who are much accustomed to the management of it often fail entirely.” Mr. Bell then states that one of the chief causes of the failure arose from the passage becoming again impervious after it had been opened; and he adds, “ that it would be the
“ idea perhaps of most practitioners to leave
“ a tube in the opening, were it not liable to
“ one very material objection, namely, the uncertainty of its continuing fixed in its situation; for hitherto we have not been pos-

“sessed of any certain method of preventing
“the caula either from rising and forcing its
“way out at the corner of the eye, or from
“passing down, and coming out at the nose.”*
He then adverts to various forms of tubes
which he had delineated in his former volume,
and adds, “that the invention of M. Pellier
“appears to be much superior to any of them.”
In one instance, Mr. Bell says, he knew it to
have answered completely, though eighteen
months had elapsed when he published the
second edition of this volume, from whence I
extract the present remark.

The peculiarity in the form of M. Pellier’s
tubes consists in their having two projecting
edges ; one at the top forming a kind of brim,
and another nearly midway between this and
the lower end of the instrument. By means
of these, when it is properly fixed in the
lachrymal passage, it is kept firm ; the gra-
nulations which shoot out from the conti-
guous parts surrounding that portion of the
tube which lays between the two project-

* Bell’s System of Surgery, vol. 4. page 55.

ing edges, and preventing it from passing either upwards or downwards.

In the year 1792, Mr. Wathen published a second edition of his tract on this disorder; and in it, as in the former edition of this work, it was his chief object to recommend for its cure, the insertion of a metallic tube in the nasal duct of the lachrymal canal. The shape of the instrument, however, was now considerably varied from that which it had when the first edition appeared; and Mr. Wathen seems to have taken much pains to adjust the tube to the size of the canal, by making an accurate measurement of their different parts. In the introduction to the work he observes, that
“ having accomplished his views in this respect
“ by a simple apparatus, he can with confidence
“ affirm that almost every degree of the *Fistula*
“ *Lachrymalis* is capable of being perfectly
“ cured by means more simple, less painful,
“ more speedy, and less deforming, than any
“ hitherto employed for this purpose.”

It would afford me the sincerest pleasure, if the experience which I have had of the use
of

of tubes, when employed for the cure of the *Fistula Lachrymalis*, would enable me to confirm the strong recommendation of them which has just been recited. After, however, an almost unremitting attention to the effects they produce, during a period of no less than twelve years, that is, from the year 1781 to the year 1793, and after having endeavoured to improve them by adopting the alterations that have been proposed, with respect to their shape and the mode of introducing them, by Mr. Wathen and Monsieur Pellier, I am obliged to say, that I have experienced so many disappointments in my own practice, and have observed so many more in that of others, that for many years I have wholly declined to employ them. Mr. Wathen and M. Pellier appear to have been of opinion, that when the cure was not completed under the use of them, the failure was chiefly owing to their improper or unsteady position in the nasal duct; and to this cause I do not doubt many of the disappointments they experienced may, with great justice, be attributed; but I have met with repeated instances

stances to convince me, that the failure has often also been occasioned by a cause which these gentlemen do not seem to have noticed ; I mean, by the lodgement of inspissated mucus in the cavity of the tubes ; which mucus, in some of those cases where I have been obliged to withdraw them, has become so hard as to be impenetrable without the exertion of very considerable force.

Mr. Wathen says the tube may be withdrawn with ease, if it do not answer the intended purpose. Many of my friends, however, as well as myself, have experienced much trouble,—have given the patient great pain,—and in some instances have been obliged to repeat our efforts several times,—before we could disengage the instrument from the firm hold which it had taken in the lachrymal canal.

The operation which I have adopted in place of that of inserting a tube in the nasal duct, is, in general, so easy to be performed, has so speedily removed every troublesome symptom, and in a great variety of instances has so effectually accomplished a cure of the disorder,

order, that I am induced to hope a description of it may not be unacceptable to my brethren in the profession.

It is an inquiry, however, of great importance, and it ought to be well considered, before this, or indeed before any chirurgical operation be determined upon, whether the inconveniences arising from the disorder are sufficiently great to render the operation necessary. And in aid of this previous inquiry, it should also be duly considered, what degree both of pain and of hazard are likely to be incurred by the operation; and how far experience justifies the performance of it, by affording a probability of its answering the intended purpose of a cure.

When the obstruction to the passage of the tears has occasioned an inflammation and supuration in the integuments which cover the lachrymal sac, and these have returned repeatedly, at short intervals, leaving the eye at all times weak and watery, it cannot be doubted that means should be employed to remove the obstruction, although there may be some degree

gree of uncertainty whether they are sufficient fully to accomplish the intended object.

When again an ulcer is formed over the lachrymal sac, through which the tears, mixed with either pus or mucus, are continually issuing, and this ulcer is connected with sinusses which run in different directions, there cannot be any doubt as to the propriety of proposing an operation, though it should afford only a probable chance of effecting a cure.

When, however, the only inconvenience which the patient sustains is a watering of the eye, and a necessity, consequent upon this, of frequently wiping away the tears which run over the cheek, it was the advice both of Mr. Pott and Mr. Warner to submit to the disorder, rather than to hazard a painful operation, in the uncertain hope of having it removed.

But it should be remembered that this advice was given upon a presumption that the operation will necessarily occasion much pain and trouble, and will be attended with great uncertainty as to its successful issue; and under these circumstances, it is undoubtedly both a
wise

wise and a prudent admonition: but if the pain occasioned by the operation I am about to describe, be, as I trust I shall be able to prove, both slight and of short duration; if there be not the least ground to apprehend any injurious consequences from it; and if, on the contrary, there be good reason to believe that the watering of the eye, and all the other troublesome symptoms, will speedily be removed by it,—in such a case, I think, we are justified in recommending it, though the inconveniences produced by the disorder be not so great as would warrant us in having recourse to that which has been proposed by former authors.

No one, indeed, can doubt, that it is the duty of a surgeon, in all instances, to endeavour to remove disorders by the least painful means that can be devised: and, actuated by this sentiment, whenever a patient applies to me for relief, on account of an obstruction in the lachrymal passage, I always attempt to clear the canal from any inspissated mucus that may be lodged in it, by injecting some warm water through the inferior punctum lachrymale;

lachrymale; joining with it, when necessary, a trial of the other remedies that have been proposed in the two papers on the Epiphora, published in the preceding part of this volume. But if after the use of these for about a week or ten days, there be not some perceptible advance towards a cure, or, if, from the long continuance of the obstruction, there be reason to fear that it is too firmly fixed to yield to this easy mode of treatment, I do not hesitate to propose the operation which is now to be described. The only persons with respect to whom I entertain any doubts as to the propriety of this advice, are infants. These, as well as persons of a more advanced age, are sometimes afflicted with an obstruction in the lachrymal canal; and in such subjects I always think it advisable to postpone the operation, unless the symptoms be particularly urgent, until they are eight or nine years old.

When the operation is determined upon, the following is the mode in which I would recommend it to be performed:—If the dis-
ease

ease has not occasioned an aperture in the lachrymal sac, or if this aperture be not situated in a right line with the longitudinal direction of the nasal duct, a puncture should be made into the sac, at a small distance from the internal juncture of the palpebræ, and nearly in a line drawn horizontally from this juncture towards the nose, with a spear-pointed lancet, of a size similar to that which is represented, Fig. 1, in the second plate. The blunt end of a silver probe, of a size rather smaller than the probes that are commonly used by surgeons, should then be introduced through the wound, and gently, but steadily, be pushed on in the direction of the nasal duct, with a force sufficient to overcome the obstruction in this canal, and until there is reason to believe that it has freely entered into the cavity of the nose. The position of the probe, when thus introduced, will be nearly perpendicular; its side will touch the upper edge of the orbit; and the space between its bulbous end in the nose and the wound in the skin will usually be found, in a full-grown person, to be about an inch and a

quarter, or an inch and three-eighths. The probe is then to be withdrawn, and a silver style of a size nearly similar to that of the probe, but rather smaller, about an inch and three-eighths in length, with a flat head like that of a nail, but placed obliquely, that it may sit close on the skin, (see Fig. 2, in the second plate,) is to be introduced through the duct, in place of the probe, and to be left constantly in it.* For the first day or two after the style has been introduced, it is sometimes advisable to wash the eye with a weak saturnine lotion, in order to obviate any tendency to inflammation which may have been excited by the

* It may be proper to introduce, at first, a style which has a head somewhat larger than that which is represented in the annexed plate, in order to hinder it from being wholly buried, by an unguarded pressure, beneath the external integuments; which accident I have known to happen in one or two instances, and to occasion both pain to the patient, and trouble to the surgeon, before the instrument could be retracted. The aperture in the skin, however, usually contracts so much in a short time, that it only leaves room for the style to pass through it; and when this takes place, an instrument with a smaller head may be employed, in order to make it less conspicuous to observers.

operation;

operation ; but this in general is so slight, that I have rarely had occasion to use any application to remove it. The style should be withdrawn once in the day for about a week, and afterwards every second or third day. Some warm water should each time be injected through the duct into the nose, and the instrument be afterwards replaced in the same manner as before. I formerly used to cover the head of the style with a piece of diachylon plaster spread on black silk ; but have of late obviated the necessity for applying any plaster by blackening the head of the style with sealing-wax.*

The effect produced by the style, when introduced in the way above-mentioned, at first gave me much surprise. It was employed with a view similar to that with which Mr. Pott recommends the introduction of a bougie ;

* To black the head of a style, fix its small end in a cork, for the purpose of holding it ; then put its other end over a lighted candle until it be quite hot, and press it immediately against a piece of the best black sealing wax, part of which will adhere to it. Let it then again be held over the candle for about a minute, when the wax will become perfectly smooth and polished.

viz. to open and dilate the nasal duct, and thus to establish a passage, through which the tears might afterwards be conveyed from the eye to the nose. I expected, however, that whilst the style continued in the duct, the obstruction would remain; and of course that the watering of the eye, and the weakness of the sight, would prove as troublesome as they had been before the instrument was introduced. I did not imagine that any essential benefit could result from the operation until the style was removed, and the passage thereby opened. It was an agreeable disappointment to me to find that the amendment was much more expeditious. The watering of the eye almost wholly ceased as soon as the style was introduced; and in proportion as the patient amended in this respect, his sight also became more strong and useful. The style, therefore, seems to act in a twofold capacity: first, it dilates the obstructed passage; and then, by an attraction, somewhat similar to that of a capillary tube, it guides the tears through the duct into the nose.

The wound that I usually make into the sac, if the suppurative process has not formed a suitable aperture in this part, is no larger than is just sufficient to admit the end of the probe or style; and this, in general, in a little time, becomes a fistulous orifice, through which the style is passed without occasioning the smallest degree of pain. The accumulation of matter in the lachrymal sac, which, previous to the operation, is often copious, usually abates soon after the operation has been performed; and, in about a week or ten days, the treatment of the case becomes so easy, that the patient himself, or some friend or servant who is constantly with him, is fully competent to do the whole that is necessary. It consists solely in withdrawing the style two or three times in the week, occasionally injecting some warm water, and then replacing the instrument in the same way in which it was done before.

It is not easy to ascertain the exact length of time that the style should be continued in the duct. Some have worn it many years, and,
not

not finding any inconvenience from the instrument, are still unwilling to part from it. Others, on the contrary, have disused it at the end of about a month or six weeks, and have not had the smallest return of the obstruction afterwards.

The troublesome ulcerations, which are sometimes formed over the lachrymal sac, heal, in general, as soon as an opening is established through which the tears may pass into the nose. But in two instances which lately came under my care, in which the patients had occasionally been subject to violent cutaneous eruptions, these wounds did not heal so soon as I expected; and a considerable quantity of purulent matter was discharged through the aperture that had been made to admit the style, several days after the operation was performed. Both these cases were evidently relieved by administering internally a weak solution of the Hydrargyrus Muriatus, together with a light preparation of the Peruvian Bark; and by pursuing the use of these medicines, the wounds in a short time closed; the aperture, which
had

had been made with the lancet contracted into a fistulous orifice, just large enough to admit the end of the style, and the purulent discharge wholly ceased.

The position both of the probe and style is very nearly the same; whether they be passed through the natural nasal duct, or through a perforation in the thin part of the *Os Unguis*; and I have reason to believe that it does not essentially signify in which of these ways the operation is performed. It may be proper, however, to point out a few circumstances in which the two operations appear to differ. One is, that in consequence of the nasal duct being lined with a smooth membrane, the instrument usually passes through it with facility; and its passage is unaccompanied with that sensation of a forcible breach, which is perceived by the operator when it makes its way for the first time through the substance of the *Os Unguis*.—Another is, that when the instrument has passed through the nasal duct, it has nearly a perpendicular position with respect to the usual posture of the body; whereas, when it

has

has passed through the *Os Unguis*, it has an oblique direction downward and inward.—A third difference is, that in the former instance, the instrument is more firmly fixed than it is in the latter, in which it often has an unsteady motion when touched with the finger. By an attention to these hints, I think it may be discovered with tolerable certainty in which of the two ways the instrument has passed ; and, I believe, I may venture to add, that whether the style be introduced in the former or latter of these directions, it is equally able to conduct the tears into the nose, and to accomplish a cure of the disorder.

After all, however, I do not wish to recommend in unqualified terms the operation that has now been described. There are none in surgery which are not subject to difficulties ; and I should be sorry, by omitting to mention any with which I have become acquainted, to mislead those who are inclined to pay attention to my advice. I beg leave to observe, therefore, that in a few instances I have passed, first a probe, and afterwards a style, an inch

and three-eighths in length, through a passage in the direction of the lachrymal duct, and, as it appeared to me, into the cavity of the nose, yet neither the accumulation of mucus in the sac, the regurgitation of tears through the puncta lachrymalia, nor the weakness of sight produced by these, have been in any degree relieved by it. I have increased the length of the style to an inch and three quarters; but still the obstruction in the lachrymal passage has continued, and the attempt to inject warm water through the new aperture into the nose has also failed. In such cases it seems evident, notwithstanding the position of the probe and style may at first have encouraged a different opinion, that neither of these instruments did really pass into the cavity of the nose. The cases are very few in which this accident has occurred; and it is remarkable that each of them was unaccompanied, prior to the operation, either with an inflammation or tumefaction of the lachrymal sac, the operation having been undertaken solely on account of the perpetual trouble which the watering of
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the eye occasioned. From hence I have been led to suspect, that, notwithstanding the aperture made by the lancet appeared to enter the lachrymal sac, and the probe and the style to pass through the duct into the nose, I was mistaken in my opinion in these respects ; instead of which the probe was only forced between the groove of the *Os Unguis* and the thickened membrane which lined it, without entering at all into the proper lachrymal canal ; and in consequence of this disappointment, it unavoidably happened that the water injected through the wound was unable to pass forwards into the nose, and wholly regurgitated either through the wound, or through the *puncta lachrymalia* over the eye. This opinion seems strengthened by the advantage which, in some such cases, has afterwards been derived from a perforation carried through the thin part of the *Os Unguis* ; after which the injected liquor has passed immediately into the fauces, and, on introducing a style through the aperture, the watering of the eye has immediately ceased.

In those cases where the nasal duct is so
completely

completely obstructed that the blunt end of a probe cannot be made to pass through it, there does not appear to me to be any way of obtaining a passage for the tears from the eye to the nose, so easy, or so effectual, as that of making a perforation through the thin part of the Os Unguis ; adopting some method afterwards by which the communication between these parts may be preserved from closing. I shall not dwell upon the mode in which this was advised by antient authors to be performed, by the use of the actual cautery. It is now well known, that every purpose which the cautery is able to accomplish, may be attained by means which are much less alarming, as well as less painful. I have often perforated this part of the bone with the sharp end of a probe. Mr. Pott gave the preference to a curved trocar ; and by others the bone has been pierced with the sharp end of a common incision knife. In either of these ways the perforation may be made with equal safety by a person who is acquainted with the situation and structure of the nasal canal. Let it only
be

be remembered, that the instrument should not be pushed transversely through, least its point strike unnecessarily against the *Os Spongiosum superius* ; nor should it be carried perpendicularly, lest it get into the channel of the nasal duct, and be stopped by bearing against that part of the maxilla superior, which contributes to the formation of this channel. On the contrary, when its point has reached the beginning of the nasal duct, it should be turned obliquely downwards and inwards, and be gently pushed on in this direction ; by which means it will pass through the *Os Unguis*, in its thinnest part, (see Plate 1,) making a slight crackling noise as it pierces the bone ; and will enter the nostril in the open space that lies between the *Os Spongiosum superius* and the *Os Spongiosum inferius*. When this part of the operation is accomplished, the perforating instrument should be withdrawn ; and a nail-headed style, about an inch long, be introduced through the aperture, in the same way in which it is introduced through the nasal duct in those cases where the obstruction

is

is not so great as to prevent its passing in this direction; and the style may remain here with as much safety as in the last-mentioned instance, for as long a time as its continuance may be thought necessary in order to establish the freedom of the communication. It may be proper to observe, that when the style is carried through a perforation in the Os Unguis, the length of an inch is sufficient to allow its end to reach the open space that lies between the Os Spongiosum superius and the Os Spongiosum inferius; and, if it were longer, it would be liable to be entangled either in the Septum Nasi, or in the Os Spongiosum inferius. But when it is carried through the natural nasal duct, its length must not be less in an adult person than an inch and a quarter, or an inch and three-eighths, in order to allow it to pass completely through the duct into the nose.

Although the perforation through the thin part of the Os Unguis is made, in general, as has been just observed, with great facility, yet in a few instances I have experienced, in making it, a great obstruction to the passage of
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the instrument, which obstruction appears to me to have been occasioned by a peculiar thickness in this part of the bone.

Mr. Wathen, in the second edition of his tract on the *Fistula Lachrymalis*, page 47, mentions, that an *Exostosis* of the Maxillary bone may not only close up, but destroy, the nasal duct ; and, as a remedy for the inconvenience arising from this disease, he proposes, page 50, “ to apply a drill of a small size through the “ external wound, in such a direction, that, “ when worked, it may make a passage through “ the ossified part, precisely in the course of “ the natural duct ; and to repeat this process “ by a larger instrument of the same kind, “ until the perforation is as large, or rather “ larger, than the original and obliterated passage.” After this, if there be any doubts with respect to its sufficiency in conveying the tears for the future into the nose, he recommends to insert either a tube or a tent,* as shall

* The tent recommended by Mr. Wathen is hollow as well as the tube ; and it appears to me to differ from the last-

shall be judged most expedient ; by which method, he is of opinion, that “ this effect will “ most assuredly be obtained and continued “ through life.”

I beg leave, however, to observe, that a *Fistula Lachrymalis* produced by an *Exostosis* of the *Os Maxillare* does not seem to differ in any essential points from those other cases of this disorder, in which the nasal duct is so completely filled up, that a probe cannot be made to pass through it ; and, in all of these, it appears to me much more easy to perforate the thin part of the *Os Unguis*, than to attempt to force a way into the nose, by drilling through the thick portion of bone in which the nasal duct was formerly situated. Mr. Wathen, in several parts of his book, discovers a great dislike of the former of these operations. I am inclined, however, to believe, that, when the obstruction has been long continued, it is

last-mentioned instrument in no other respect than that of its having a longer head ; which, if I understand Mr. Wathen rightly, is intended chiefly to keep the lachrymal sac from contracting into too small a cavity.

not

not only more easy to perforate the Os Unguis than to renew the old passage, but that it is in every respect, as likely to effect a radical cure of the disorder. In those cases, also, in which a tube or tent has been supposed to be inserted into the nasal duct, I am much disposed to doubt, whether the instrument has not sometimes been placed, inadvertently, in a perforation, that has been made by the probe through the Os Unguis. And with regard to the insertion of such tube or tent to perpetuate the passage, after it has been made with a drill, in the way recommended by Mr. Wathen, the same objections lie against its use here, which may be made against its insertion in the natural nasal duct ; and these appear to me so considerable, that, though I was formerly a friend to the operation, they have determined me, for several years past, wholly to relinquish it.

It may, perhaps, be thought, that the operation which I have taken the liberty to recommend in the preceding pages, has a close resemblance to that which was proposed by the late Mr. Pott. It will be found to differ from
it,

it, however, in many essential respects.—Mr. Pott, for instance, as well as Mr. Warner and Mr. Bell, advises the operator to make a large opening into the lachrymal sac. On the contrary, I have proposed to make a small one.—These gentlemen, again, recommend different kinds of dressings after the operation; some of which are difficult to be applied, and painful in their action. The dressing, which I have proposed, is confined simply and solely to a silver nail-headed style.—Their operation is performed, and their dressings employed, in order to form a channel, through which the tears may afterwards pass into the nose; and until this passage be formed, and the necessity for further dressings cease, they do not encourage any hope that the disorder will be removed. Experience, however, teaches me, on the contrary, that as soon as the style is introduced, the disorder immediately ceases; and the tears pass, at once, into the nose, either through the natural nasal duct, or through the perforation that is made by the operator in the thin part of the Os Unguis.

I now proceed to relate a few cases for the purpose of exemplifying the above remarks. They are selected from a considerable number, in which a similar mode of treatment has been attended with an equal degree of success. In a tract like the present I do not feel myself at liberty to mention the names of the persons whose cases are recorded ; but, being fully sensible of the ease with which histories of this kind may either be manufactured, or altered, in order to support a favourite system, I have felt it incumbent upon me, for the satisfaction of the reader, to mention the names of the medical gentlemen who attended the cases with me ; and through them a reference may at any time be made to the patients themselves. I am not conscious of any deviation from the strict line of truth in the details that are given of them.

C A S E S.

CASE I.

An obstruction in the Lachrymal Canal, of several Years continuance, perfectly and speedily cured by the Introduction of a nail-head Style through the Nasal Duct.

A young lady of Oxford, who for upwards of three years had been subject to an almost continual watering of one of her eyes, accompanied at different times with a troublesome inflammation of the Tunica Conjunctiva, was introduced to me on the 8th of July, 1796, by Mr. Curtis, surgeon, at Islington. Prior to my being consulted, the tears had frequently been mixed with a small portion of inspissated mucus, which at those times made the eye feel stiff and uneasy; and the eye-lids were usually gummed together when she awoke in the morning. On examining the eye, an excoria-

tion was perceived on the edges both of the upper and lower lids, and on gently pressing my finger on the lachrymal sac, which appeared fuller than in its natural state, a few small particles of inspissated mucus were discharged through the puncta lachrymalia, and spread over the eye. I endeavoured to inject some warm water through the inferior punctum into the nose; but the obstruction in the nasal duct was so great that none would pass, the whole of the liquor returning immediately through the superior punctum. A little of the Unguentum Hydrargyri Nitrati was applied with a camel's-hair pencil to the excoriated edges of the eye-lids, and a weak vitriolic Collyrium was directed to be used three or four times in the course of the day. The injection of warm water, together with the application of the ointment, were repeated several days in succession. On the eleventh, the watering of the eye was less troublesome. On the fifteenth, a part of the injected liquor evidently passed both into the nose and throat; as it did also on the three following days; the flow of
tears

tears over the check being considerably diminished. On the nineteenth, the patient caught cold at the opera; in consequence of which, the Epiphora immediately returned, and was accompanied with a small degree of inflammation on the ball of the eye. The next day no part of the injected liquor would pass through the duct. I scarified the schniderian membrane, on the inside of the nose, with the point of a lancet, and took away two or three tea spoonfuls of blood; an opening medicine was administered; and a saturnine lotion applied to the eyes. On the twenty-first, the inflammation of the eye was removed; but still none of the injected liquor would go down. I introduced the end of a small gold probe through the superior punctum lachrymale, and gently pushed it on, in the direction of the duct, but it would not pass. On the twenty-second I repeated the attempt, and it now went freely into the nose; after which some warm water, injected through the inferior punctum, also passed. The watering of the eye gave very little trouble for several days after

after this time: but in about a week the obstruction to the tears returned, together with an inflammation on the ball of the eye, and a small tumefaction in the lachrymal sac. Both the patient and myself were much discouraged by this relapse; and I now proposed to her to allow me to make a puncture into the sac, and to introduce a style, in the way that has been described in the preceding pages. Agreeably to this advice the operation was performed on the 7th of August; and, with very little pain or difficulty, a probe was first introduced, and afterwards a nail-headed style, an inch and three-eighths in length, through the nasal duct into the nose. August 8th, the young lady had not experienced any pain, and the inflammation of the eye was abated. August 9th, I withdrew the style and injected some warm water through the wound. It passed freely into the nose; after which the style was replaced with as much ease as it had been at first introduced. August 10th, the watering of the eye was greatly diminished; and the eye, in every respect, much more easy than it had been

been

been for many months before the operation. The style was withdrawn and replaced every day for about a week, and afterwards every second or third day until the 30th of the same month, when the patient left London, being perfectly able to manage the operation: which she repeated every four or five days, in order to keep the style clean, and the passage clear.

On the 16th of August, 1797, she informed me by a letter, “ that her eye had been effectually relieved by the introduction of the style; that she had then worn it without the smallest inconvenience above a year; and that she should certainly continue it until she had an opportunity of seeing me.”

CASE II.

An Epiphora, produced by an old obstruction in the Lachrymal Canal, which, like the former, was speedily cured by the introduction of a nail-headed Style through the Nasal Duct.

The daughter of I. P., 13 years of age, was recommended to me August 14th, 1797, by Mr. Moore, apothecary, in Norfolk-street, Strand, on account of a constant watering of the right eye. It had been troublesome to her ten years, and began during the time she had the small-pox; which disorder had produced a violent inflammation in both her eyes. When I first saw her, the edges of the lids of both eyes, and particularly of the right, were considerably excoriated; and her sight was so extremely weak, that she had long been unable either to read, or to work with her needle. The right lachrymal sac was distended with a considerable

considerable quantity of thick mucus, which often returned through the puncta lachrymalia over the eye; and not unfrequently she was obliged to discharge it by the pressure of her finger. I injected some warm water through the inferior punctum, but could not observe that any of it passed into the nose. The obstruction was so complete, and had continued so long, that it appeared to me in vain to attempt to clear the duct by a continuance of this mode of treatment. I, therefore, proposed to the mother of the girl, to permit me to puncture the sac with a spear-pointed lancet, as had been done in the preceding case, and to introduce a nail-headed style. The mother and daughter acceding to the proposal, the operation was performed the same day, and a style was introduced without any difficulty, through the duct into the nose. The head of the instrument being blacked with sealing-wax, no dressing was necessary over it; and the eye was no otherwise defended from the light than by the use of a common shade. August 15, the eye was not in the least inflamed, and the patient

had

had not suffered any pain since the time of the operation. A little of the Unguentum Hydrargyri Nitrati Rubri was applied with my finger to the excoriated edges of the eye-lids, and was wiped off immediately afterwards. August 16th, I withdrew the style, and injected some warm water through the aperture; the whole of which passed at once either into the nose or throat; after which the style was again introduced as before. This operation was repeated daily until August 23d, when the watering of the eye had wholly ceased, and the sight of the patient was become as strong as that of other persons. The style was continued in the duct until the 2d of October, being retracted only once or twice in the week, in order to inject some water through the passage. At this time it appeared to me that the lachrymal passage was sufficiently established to allow the instrument to be withdrawn entirely. This was accordingly now done, and the wound suffered to close; after which the Epiphora did not return, and the sight continued perfectly strong and useful.

CASE

CASE III.

*An old Obstruction in the Lachrymal Passage
of both Eyes speedily removed by the Intro-
duction of a Style into each.*

The daughter of I. Millar, servant to Mr. Fell, Corn-factor, on the Bankside, Southwark, about 12 years old, was brought to me on the 26th of July, 1797, on account of a considerable watering of her eyes, accompanied with a dilatation of both the lachrymal sacs, and the frequent regurgitation of a thick matter through the puncta lachrymalia over the eyes. The girl had had the small-pox very favourably when an infant; but afterwards the left eye was much inflamed, and a considerable opacity took place in the Cornea; which, though diminished, was still visible. The watering of the eye did not come on till she was seven years old. It began, without any known cause, first in the right eye; and in

six months afterwards, in the left also. The disorder was much increased whenever she caught cold, and was often accompanied, as at the time when I first saw her, with an accumulation of thick matter in the lachrymal sacs. The eyes being occasionally inflamed, she had been advised by a gentleman in the city to drop some Laudanum into them, but was not sensible of its having done her any good. In this instance it appeared to me to be in vain to try inferior modes of cure. I, therefore, immediately advised that a style should be introduced through the obstruction in each duct. On the 27th, I punctured the right sac, and without any difficulty introduced a style, an inch and an eighth in length. No inflammation followed the operation. It was withdrawn daily for about a week, and some warm water injected. At the end of this time the discharge of tears ceased to give trouble. On the 7th of August I punctured the left lachrymal sac, and introduced a style through this duct, with as much ease as it had before been carried through the right duct. On the 9th, there

there was not any matter retained in either of the lachrymal sacs ; and the girl informed me that neither the right nor left eye had watered more than four times in the preceding day. August 12th, there was a slight discharge from the aperture in the left sac, but none from that in the right. Her sight was now quite strong. She went to school; performed the usual school business with ease; and did not find the smallest inconvenience from the lodgement of the styles; the heads of which being small, and covered with black sealing-wax, were scarcely to be perceived. They were permitted to remain between two and three months; when the lachrymal passage appearing to be perfectly restored, they were withdrawn. The wounds closed immediately; and the girl has not had any trouble from the watering of her eyes since this time.

CASE IV.

Introduction of a nail-headed Style, with immediate success, after the failure of a metallic Tube.

A daughter of Mr. G. in Great Marybone-street, about eight years of age, had been afflicted with a watering of the right eye, ever since she was a year old, and it first took place after she had the small-pox. She had this disorder in a very slight manner; but, a pustule happening to form on the edge of the eyelid, it seems probable that the inflammation which it excited was continued to the membrane which lined the lachrymal canal. When she was three years old, an abscess formed over the lachrymal sac; in consequence of which she was taken to a surgeon at the west end of the town, who opened the tumor with a lancet, and proposed to the mother to insert a tube in the nasal duct. At this time the parents of
the.

the child would not consent to have the operation performed ; and for two years the abscess repeatedly broke and healed. When the child was five years old she was brought to me, during one of those seasons in which the abscess was full of matter. I was then of opinion, that the insertion of a hollow tube in the nasal duct was the most likely method of curing the disorder ; and therefore I recommended this operation to the parents of the child, without knowing that the same advice had before been given by another surgeon. The parents now consented to have the operation performed. I therefore made a large opening into the sac, and introduced a tube with a tip, or projection, at the top, to hinder it from sinking too low, and two projections or shoulders, at a small distance from one another, to prevent it from rising too high. Within three days after the tube was inserted, the wound was healed, the tears passed freely into the nose, and the watering of the eye wholly ceased. She continued well about a year ; but at the end of this time a thick mucus was frequently accumulated

accumulated in the lachrymal sac, which she was unable to press downward through the duct. She was therefore obliged, by pressure on the sac, to force it back through the puncta lachrymalia over the eye. The watering of the eye also returned in a small degree; though it was not nearly so troublesome as it had been before the tube was inserted. The eye continued in this state nearly two years; when the girl, who was nearly seven years old, received a violent blow on her face, which occasioned a great swelling of the nose; and, the next morning, the lower part of the tube, which seems to have been broken from the upper part at one of the shoulders above-mentioned, was discharged through the nostril. About a fortnight after this, an inflammation commenced over the lachrymal sac, which soon discovered a tendency to suppurate. She was now taken to Mr. Underwood, in Great Marlborough-street, who at first gave her an eye-water, but afterwards recommended a bread and milk poultice to promote the suppuration. This soon caused the abscess to break; and

as the wound did not heal, Mr. U. accompanied her to me for further advice. On examining the wound with a probe, I felt the top of the tube steadily fixed in the upper part of the duct; and it appeared highly desirable, in the first place, to extract it. A large aperture was therefore made with a lancet directly over it; and, after repeated attempts, I at length succeeded in securing it between the blades of a small forceps, and thus brought it away. A style, an inch and an eighth in length, with a broad nail-head was then introduced; after which the swelling of the integuments quickly subsided, the watering of the eye ceased, and the sight became as strong as that of the other eye. In about a week the wound was contracted to a fistulous orifice that was but just large enough to admit the introduction of the style. I therefore now made use of one that had but a small head; and within a fortnight took leave of the patient, having instructed her mother to withdraw the style once in a week; and to inject some warm water through the duct, in order to hinder any inspissated

mucus from collecting round the instrument.

CASE V.

Introduction of a nail-headed Style, with immediate success, after the extraction of a metallic Tube which was become obstructed and injurious.

Mrs. B. about 50 years of age, was attacked, in the year 1790, without any known cause, with an almost constant effusion of tears over the left cheek, which effusion was not unfrequently accompanied with a slight inflammation of this eye. After it had continued about six months, as the inconvenience it occasioned rather increased than lessened, she came to town and put herself under the care of Mr. Wathen and myself.* At that time both of us had a high opinion of the efficacy of a metallic tube inserted in the nasal duct for the cure of this

* The partnership between Mr. Wathen and me did not terminate until March 1791.

disorder. It was accordingly proposed ; and on the 13th of December, 1790, the operation was performed. The adjustment of the tube to the duct in this instance, gave more trouble than we had usually experienced ; but, after a few days, it fully answered the purpose of conveying the tears into the nose, and the watering of the eye ceased. The lady continued well after this time until the beginning of the year 1793 ; when in consequence of her experiencing a slight uneasiness in her eye, some warm water was injected through the inferior punctum lachrymale ; but the obstruction in the tube was so considerable, that none of it appeared to pass into the nose or throat. Notwithstanding this obstruction, the watering of the eye at this time occasioned so little inconvenience, that it was not thought advisable to propose any particular remedy for it. The eye continued nearly in the same state about six months ; but then the Epiphora became again troublesome, and it was frequently accompanied with a slight inflammation of the eye, very similar to that which the patient had

experienced before the tube was inserted. In October, 1793, the uneasiness increased; the inflammation was more than ordinarily severe; and an abscess formed over the lachrymal sac. In consequence of this she consulted Mr. Andrews, her family surgeon, at Rumford, who, being informed of the insertion of the tube, advised her to consult either Mr. Wathen or me, on the measures that were necessary to be now adopted. Mrs. B. accordingly came to town on the 30th of October, and called on me in New Bridge-street. The abscess at this time had burst, and a small aperture was formed directly over the entrance of the nasal duct. On introducing through the aperture the round end of a probe, I very readily felt the top of the tube, and endeavoured to carry the probe through it; but its cavity was so completely filled, that I found it impossible to accomplish my intention. The lady expressed a great desire to have the tube withdrawn; and as it appeared now to be incapable of answering the purpose for which it was introduced, I acceded to her wish, and enlarged the

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the aperture, in order to give room for the introduction of a forceps with which it might be secured. After making repeated attempts with this instrument, I, at length, succeeded in bringing it away; and on examining the tube its cavity was found to be filled with a black solid substance, which appeared to be chiefly formed of inspissated mucus. Some warm water was injected through the wound, and, being afraid to trust to the continuance of the communication without the insertion of a solid body through it, I introduced, in place of the tube, a part of a common probe, about an inch and a half long, which was bent at its superiour extremity, in order to hinder it from passing too low in the duct. On the following day the inflammation of the eye was much abated, and the patient informed me that the discharge of tears over the cheek had been much less troublesome than on many of the preceding days. On the third day the watering of the eye had wholly ceased, and the sight was become quite strong. I now withdrew the probe; and again injected some warm
water;

water ; after which the instrument was replaced as before. When the probe was first introduced, it was my sole intention to employ it for a short time, in order to prevent the nasal duct from suddenly closing ; which it was to be feared might have happened after the tube was extracted. I had not any expectation that the watering of the eye would wholly cease, so long as a solid body continued in the duct. Being agreeably disappointed in this respect, I determined to continue the style a longer time than was at first intended ; and, instead of bending the upper end of the instrument, it was suggested by Mr. B. that if it had a head, like that of a nail, placed obliquely so as to sit close to the skin, it would be less likely to slip or be struck ; and, if it were enamelled, so as to resemble the colour of the skin, it would be less observable. A style of this kind was accordingly substituted for the bent probe ; and it has now been worn many years, being only withdrawn once or twice in a week to inject some warm water through the passage ; and, during the whole of this time, the lady
has

has not experienced the smallest inconvenience from the watering of her eye, nor has she had the least inclination to omit wearing the instrument.

The case above related was the first that came under my notice, in which the efficacy of a solid style to guide the tears into the nose, appeared to me sufficiently satisfactory to convey an idea that it might become a general remedy in the treatment of the *Fistula Lachrymalis*.* But this case, considered alone, was not sufficient to justify a confident expectation of this kind; since the duct was dilated by the long continuance of the tube within it; and, the style being smaller than the cavity formed by the tube, it may readily be supposed, there might be room left for the tears to pass down by its side. Opportunities, however, soon offered to try the effects of a similar treatment in other instances of this disorder. An

* I remember one instance, indeed, not wholly unlike to this, which occurred many years ago, during the time that Mr. Wathen and I were engaged in business together; but neither of us at that time paid sufficient attention to the case to make any practical use of it.

account of many of these is given in the present tract ; and in most of them the only aperture made in the obstructed duct was formed by an instrument no larger than the style itself. In these cases, no less than in that which has just been related, the watering of the eye almost immediately ceased, as soon as the style was properly introduced through the duct.

CASE VI.

Introduction of a nail-headed Style through a metallic Tube, inserted in the Nasal Duct ; which Tube was become obstructed, and could not be extracted.

A. G. 64 years of age, a workman in Mr. Seddon's warehouse, in Aldersgate-street, was first attacked with a watering of the left eye about 6 years before I saw him. For 3 years the only trouble it gave him, arose from the necessity of often wiping away the effused tears ; but at the end of this time an abscess formed over the
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the lachrymal sac, which obliged him to ask advice from a surgeon. When the suppuration was complete, the abscess was opened by a gentleman in the city, who afterwards inserted a metallic tube in the nasal duct; in consequence of which, he became very quickly quite well, and for six months had not any trouble from the watering of the eye. At the end of this time, however, the obstruction returned; and, shortly afterwards an abscess again formed over the lachrymal sac, which was accompanied with a considerable inflammation of the Tunica Conjunctiva. The operation of introducing the tube into the nasal duct had given the patient so much pain, that he did not chuse to repeat his application to the gentleman who performed it; but came, by the advice of a friend, to beg my assistance. The abscess had burst directly over the entrance of the duct. I, therefore, enlarged this aperture, and then endeavoured, with a small but strong pair of forceps, to extract the tube. After repeatedly introducing the instrument for this purpose without success, I, at length, determined to
try

try the effect of inserting a slender style, an inch and three-eighths in length, with a nail-head, through the tube ; which operation was accomplished with ease ; and the next day the inflammation of the eye was less, and the discharge of tears considerably diminished. The style was now withdrawn, and some warm water injected through the tube into the nose ; after which it was replaced as before. In about a week his sight became as strong as it ever had been ; and from that time to the period when I draw up the present statement of his case, which is upwards of two years, he has not had any return either of inflammation, pain, or watering of the eye. He takes out the style once every week, and injects some warm water through the tube ; after which he immediately replaces the instrument, and has never experienced the smallest obstacle to its passing, or the least inconvenience either from the style or the tube, which last still continues fixed in the nasal duct.

CASE VII.

Cure of an Obstruction in the Nasal Duct, which had produced a troublesome Ulceration in the integuments that cover the Lachrymal Sac.

Mr. P. a merchant at Manchester, about 30 years of age, began first to experience uneasiness from the watering of one of his eyes in the year 1790; but as it gave him no other trouble than that of often wiping away the tears, it was not particularly attended to until November 1794; when, in consequence of his taking a violent cold, an inflammation took place over the lachrymal sac, which speedily advanced to a suppuration; and the abscess at length burst through the integuments a little below the entrance of the nasal duct. In a letter with which I was favoured by Dr. Taylor, of Manchester, he informed me “ that the opening being too small, it was “ enlarged with a lancet, but care was taken
“ to

“ to avoid wounding the sac; and, in three
“ weeks or a month after this enlargement,
“ the sac of itself gave way, and the discharge
“ then, for the first time, became watery and
“ mixed.” The disorder remained in this
state several weeks. The tears continually
issued through the wound, and were often
blended with a thick mucus; the integuments
over the sac were much thickened, and had a
yellow appearance; and the eye was always
uneasy. In this state he came to London, and
put himself under my care. The aperture that
was formed in the sac was too low to admit the
passage of a probe through it into the nasal
duct. Without paying any regard, therefore,
to this wound, I made a puncture, with a
spear-pointed lancet, directly over the entrance
of the duct, and, after passing a probe through
it, which was accomplished with very little dif-
ficulty, I immediately introduced a nail-headed
style, and left it there. On the following
day, the watering of the eye was much less
than it had been for a long time prior to the
operation, and there did not appear to be
any

any increase of inflammation. On the third day I withdrew the style, and injected some warm water, after which the style was replaced as before. Within a week from this time the old wound was completely healed, and the aperture which had been made with a lancet became a fistulous orifice, just large enough to admit the style to pass through it. The patient shortly afterwards returned to Manchester, with directions to withdraw the style every two or three days, in order to inject some warm water through the duct. It was worn, in the whole, about ten weeks; but towards the latter part of this time, it often slipped out imperceptibly; and as the effusion of tears did not give any trouble, the aperture was then suffered to close. Many years have elapsed since the cure, and there has not been the smallest tendency to a return of the disorder.

CASE VIII.

Cure of a watering of the Eye, which was accompanied with a fixed Tumor over the Lachrymal Sac.

A young woman, who had the care of the nursery in a merchant's family in Finsbury-square, applied to me in December 17th, 1796, by the recommendation of Mr. O'Donnel, apothecary, in Great Marlborough-street, on account of a watering of the left eye, which had been troublesome to her ever since she was a child, and was now accompanied with a fixed tumor over the lachrymal sac, and a constant uneasy heat in the eye and side of the nose, but without any apparent inflammation in these parts. The tumor began between two and three years ago, and within the last five months it was become so large as to be visible to every person who looked at her. It seemed to contain a fluid; but pressure did not produce

duce any effect upon it, either in sending its contents into the nose, or in making them regurgitate through the puncta lachrymalia. The effusion of tears, at the time she consulted me, was more than ordinarily troublesome, as was also the sense of heat in the ball of the eye. Being doubtful as to the nature of the swelling, I at first only advised her to foment the eye night and morning with an infusion of chamomile flowers, and afterwards to rub it with a small portion of the common mercurial ointment. At the end of a week, I flattered myself the size of the tumor was somewhat reduced. She was directed to continue the same applications, and to wash the eye three times in the day with a weak vitriolic lotion. I did not see her after this time until February 7th, when the tumor appeared to me to be as large as when I first saw it. Some warm water was now injected through the punctum inferius; but none of it passed into the nose. I also endeavoured to pass a probe from the superior punctum through the duct, but the obstruction was so great that it could not be accomplished.

In this state of the disorder, I proposed to the patient to permit a puncture to be made into the tumor, in order both to make me acquainted with the nature of its contents, and to shew whether, by diminishing its size, the lachrymal passage might not be made pervious. Accordingly, on the 9th of February the tumor was punctured with a spear-pointed lancet, and a gelatinous yellow fluid discharged. I afterwards endeavoured with the blunt end of a probe to find the entrance of the nasal duct; but could not discover it. On the 11th, there was not any inflammation, and only a small discharge of matter from the aperture that had been made. On the 13th, the quantity of matter discharged through the wound was considerable; and the patient experienced a great degree of pain. A bread and milk poultice was applied. On the 15th, an erisipelatous swelling came over the whole of the left side of the face, and much matter was still discharged through the wound. On the 20th, the discharge was diminished, and the inflammation much abated. The watering of the
eye

eye also was not quite so troublesome as it had been before. On the 27th there did not appear to be any inflammation, but much matter came from the wound. The blunt end of a probe was again introduced through the aperture, and now, without the least difficulty, it was carried through the nasal duct into the nose; immediately after which I withdrew it, and with equal ease introduced a nail-headed style of the same size. March 1st there was scarcely any inflammation of the eye, or any discharge of tears. The lodgement of the style in the duct had not occasioned the smallest degree of pain or uneasiness. It was afterwards daily withdrawn, for a short time, in order to make room for the injection of some warm water. On the 4th, the watering of the eye had wholly ceased, and the sight was become quite strong. The wound in the sac was so much contracted, that it was but just large enough to admit the end of the style. After this time she did not experience the least trouble from her eye; and on the 25th of August called upon me to ask if the use

of the style might not be omitted. As it had been worn above six months, it appeared to me probable that the nasal duct would now continue pervious without using it. I therefore acceded to her proposal, and withdrew it entirely. The aperture closed almost immediately; she had not any return of the watering of her eye afterwards; and her sight has since continued perfectly strong and useful.

CASE IX.

Cure of an obstruction in the Nasal Canal, produced by a constitutional Humor, and occasioning repeated suppurations in the Lachrymat Sac.

Mr. A. 35 years of age, was attacked, about seven years ago, with a violent eruption in his face, neck, and shoulders, which spread in many parts into large sores, and was supposed to originate from a scrophulous habit. He took a considerable quantity of Peruvian Bark, and

and other medicines, and afterwards passed some months at the sea side, without experiencing the least assistance from them. After this he was put upon a mercurial course; under which process, in a short time, the wounds began to heal, and by continuing to employ it, the eruptions entirely disappeared; but they left a watering of the left eye, which was so troublesome that it obliged him almost continually to keep the handkerchief applied, in order to wipe off the tears that fell over the cheek. He suffered no other inconvenience from it until February, 1797, when an inflammation and swelling suddenly took place over the lachrymal sac, accompanied with a violent pain in this part. The tumor speedily advanced to a suppuration; when it broke, and the patient became apparently well. Within a week, however, the inflammation and pain returned with their former violence; and in a short time the skin again broke, considerably below the entrance of the nasal duct. In this period of the disorder he put himself under my care, on the 11th of March, 1797, by the re-

commendation of his apothecary, Mr. Farley, in Holborn. I advised him to foment the eye for a day or two, with a strong decoction of poppy-heads, and to continue the application of a bread and milk poultice on the tumor, in the same way he had done before. On the 13th the inflammation and effusion of tears were much abated; and the swelling of the sac subsided so much, that I was inclined to hope the lachrymal canal might again become pervious, without requiring the performance of any operation. But on the 18th, the eye became inflamed a third time, and another accumulation of matter took place in the lachrymal sac, which in a day or two was discharged in the same place as before. On the 21st, therefore, without paying any regard to the old aperture, I made a puncture into the sac with a spear-pointed lancet directly over the entrance of the duct; after which I introduced the blunt end of a probe, and found the obstruction in the duct so considerable, that it was impossible, without using a greater degree of force than appeared to me proper, to push the
instrument

instrument through it into the nose. I therefore withdrew the blunt end of a probe, and introduced that which was sharp ; with which, without any difficulty, I perforated the thin part of the Os Unguis, which occasioned a few drops of blood to escape from the left nostril. I withdrew the probe, and introduced immediately a nail-headed style, which, being of a size somewhat smaller than that of the probe, passed with ease through the new aperture. On the 23d, the style was withdrawn, and some warm water injected. It passed freely into the nose ; after which the style was replaced. This operation was repeated every day for a fortnight, at the end of which time the effusion of tears was inconsiderable ; but the inflammation of the eye continued, and the edges of the wound, through which the style was introduced, were extremely sore, and appeared to spread. Different sorts of Collyria were employed, but they did not effect any change. It now occurred to me, that the obstinacy of the disorder might be occasioned by a part of the same humour remaining
in

in the habit, which had been found so difficult to subdue when the obstruction in the lachrymal passage was first perceived. I therefore recommended a quarter of a grain of Hydrargyrus Muriatus, dissolved in half an ounce of spirit of nutmeg, and mixed with a basin of thin gruel, to be given every night at bed-time. Within three days after this plan was adopted, the inflammation of the eye began to abate; and within a fortnight ~~it~~ was wholly removed. The soreness of the wound, through which the style was introduced, was also gone; and this aperture was soon reduced to a size no larger than was sufficient to allow the instrument to pass through it. Many months have now elapsed since the cure was completed; and during this time the patient has not experienced the slightest inconvenience from the use of the style, which he withdraws only once in the week, and replaces with great facility.

CASE X.

I am favoured with the following Case by Mr. Green, Surgeon at Peckham; who drew it up, in compliance with a request I made him for this purpose, in order to introduce it in the present Work.

“ Mrs. S., in the year 1793, was suddenly
“ attacked with an apoplectic fit, whilst stand-
“ ing at the top of a flight of stairs; in conse-
“ quence of which she fell down several of
“ them, and by the fall one of her teeth was
“ beat out, and the left side of her face much
“ bruised. She soon recovered her recollec-
“ tion; but, for a considerable time afterwards,
“ was deprived of the use of her limbs on that
“ side. The sight of the left eye also became
“ dim; her left nostril was peculiarly dry; and
“ she had frequent troublesome itchings in the
“ left eye-lids. In the beginning of the year
“ 1795, she caught cold by going on the
“ water;

“ water ; in consequence of which the left eye
“ and eye-lid became inflamed, and a tumor
“ began to form about the middle of the under
“ lid, attended with a hardness nearly re-
“ sembling that of a stone. The inflamma-
“ tion extended over the lachrymal sac, and
“ the whole of that side of the nose ; and the
“ passage for the tears was so entirely stopped,
“ that this fluid trickled continually down the
“ cheek. By the use of fomentations and
“ poultices, together with the administration
“ of Cicutæ, &c. the tumor at length was
“ brought to a suppuration, and burst. The
“ edges of the sore, however, were very hard,
“ and had an unpleasant carcinomatous ap-
“ pearance. She still suffered violent excru-
“ ciating pain ; and her distresses were much
“ increased by her being at that time be-
“ tween seven and eight months advanced in
“ pregnancy. In this state of the case I re-
“ quested you to see the patient with me on
“ the 28th of March. We enlarged the aper-
“ ture with a narrow-bladed curved knife, and
“ carried

“ carried the incision into the lachrymal sac.
“ A few days afterwards, I attempted to pass
“ a thin bougie through the *Ductus ad Nasum*;
“ but the wound was in such an irritable state,
“ that I was obliged to desist without accom-
“ plishing the object I had in my view; and,
“ although the patient had experienced relief
“ from the violence of the pain she before en-
“ dured, by the enlargement of the aperture,
“ the wound had still a very unfavourable as-
“ pect, and the tears continually trickled down
“ the cheek. About the end of April, 1795,
“ the operation you proposed was performed.
“ The old wound being contracted in size, and
“ situated in the inferior part of the lachrymal
“ sac, an aperture was made into this cavity
“ with a spear-pointed lancet directly over the
“ entrance of the nasal duct; immediately after
“ which the end of a nail-headed style was
“ introduced into the aperture, and conveyed
“ through the duct into the nose. From this
“ time the wound put on a more favourable
“ aspect, and the tears passed through their
“ natural course. The style was withdrawn
“ every

“ every second or third day, and some warm
“ water injected. The old wound was dressed,
“ as you desired, with the Ceratum Album,
“ mixed with a third part of the Flores Zinci;
“ and its edges were occasionally touched with
“ the lunar caustic. Mrs. S. was brought to
“ bed in June, and had an easy natural labour.
“ Being afterwards in a very weak state, she
“ returned to the use of Bark and Cicutā; and
“ the old wound did not completely heal until
“ the end of the year. The watering of the
“ eye, however, totally ceased soon after the
“ style was introduced; and at the present
“ time, which is two years since the operation
“ was performed, she continues perfectly well.
“ There is not the smallest hardness in the
“ eye-lid; the scar is very little perceptible;
“ and, as to the style, she scarcely thinks it an
“ inconvenience.”

These ten cases, which were published in the first edition of this work, will be sufficient to elucidate the observations that have been offered in the preceding pages, and I flatter myself,

self, will evince the propriety of the treatment which I have taken the liberty to recommend. I should not have thought it now necessary to introduce any new one, if the following had not been sent me by a friend, just at the time that I am correcting these pages for the press. It adds greatly to the strength of the recommendation.

CASE XI.

Communicated by Mr. Smith, Surgeon at Aylesbury.

“ Nov. 26, 1804, Mrs. B., about 39 years
“ of age, was recommended to me by Mr.
“ Firth, surgeon of Tring on account of a con-
“ stant watering of the left eye, attended with
“ great pain both in the head and in the left
“ side of the face. The lachrymal sac was con-
“ siderably distended, and the skin over it in-
“ flamed. On pressure, tears mixed either with
“ pus or mucus passed through the puncta
“ lachrymalia. The edges of the lids were
2 “ excoriated,

“ excoriated, and the Tunica Conjunctiva
“ slightly inflamed. The patient complained
“ of the sight of the eye being so very in-
“ different, that at times she could neither
“ work with her needle, nor read a large print.
“ The disease first made its appearance after
“ a severe fever, two years ago, and had gra-
“ dually increased to the present time. Mrs.
“ B. had been under the care of another
“ surgeon before Mr. F. attended her, and
“ had tried a variety of applications without
“ relief. I therefore proposed the operation
“ recommended in your treatise, and the pa-
“ tient willingly consented to submit to it. It
“ was performed on the 28th, in presence of
“ Mr. Woodman, a surgeon of this place. I
“ made a small opening into the sac over the
“ orifice of the duct, and with very little
“ difficulty introduced a probe through it
“ into the nose, and afterwards a nail-headed
“ style, an inch and three-eighths long. The
“ pain suffered during the operation, was
“ trifling. I advised the eye to be washed
“ with a saturnine lotion, and suspended a
“ compress

“ compress moistened with it over the eye-
“ lids. In the evening the patient complained
“ of considerable pain in the head and left side
“ of the face ; but the eye was perfectly easy,
“ and the inflammation had not in the least
“ increased. On the 29th, she had passed an
“ indifferent night from pain in the head, (the
“ face being better) but it had not been more
“ severe than she had repeatedly suffered before
“ the operation was performed. The eye had
“ been free from pain ; had watered less ; and
“ she was sensible her sight was clearer, and
“ that there was some degree of moisture
“ in the left nostril. On the 30th, Mrs. B.
“ had rested well ; the pain in the head had
“ left her ; the eye was easy ; the watering had
“ scarcely troubled her ; and she informed me
“ that her sight was stronger than it had
“ been for several months. I removed the
“ style, and injected some warm water through
“ the opening ; and it readily passed into the
“ throat and left nostril. I then replaced the
“ style without the smallest difficulty, and ap-
“ plied a small quantity of the Unguentum Hy-
“ drargyri

“ drargyri Nitrati to the excoriated edges of
“ the lids. The style was daily removed, and
“ some warm water injected through the duct ;
“ the use of the ointment and lotion being still
“ continued. December 3d, I removed the first
“ style, and substituted one which measured an
“ inch and a quarter ; the other being too long.
“ The inflammation in the eye was now com-
“ pletely gone, and also the excoriation of the
“ eye-lid. The eye only watered when she
“ first awoke in a morning. The pain in the
“ head and face also was removed, and her
“ sight as good as before the disease com-
“ menced. On the 8th she returned home.
“ I afterwards saw her on the 18th ; and as
“ she complained that the style hurt her nose
“ when it was pressed, I shortened it about one-
“ eighth of an inch more ; after which she did
“ not find any inconvenience from it. She was
“ then enabled to work with her needle, and to
“ read a common sized print without difficulty,
“ and the pain in the head and face had not
“ returned. I saw her on February the 1st
“ and the eye continued perfectly well.”

Feb. 4, 1805.

A P P E N D I X.

ON THE

INTRODUCTION

OF THE

MALE CATHETER.







On the Introduction of the Male Catheter.

Read before the Medical Society of London, Sept. 8, 1788.

THE introduction of the male catheter, in suppressions of urine, often supplies the only remaining means for the preservation of life. It becomes, therefore, an object of very considerable importance; and in the following paper I propose to lay before the society such remarks as have occurred to me on this subject.

In the first place, it appears to me not a little extraordinary, that the curvature of the catheters, which are represented in many books of surgery, and also of those which are usually sold at the instrument-makers, should differ so much, as I find they do, from that of the sound, that is used in searching for the stone.

If, as a modern author of acknowledged

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merit

merit informs us,* the curvature of the sound he represents, be taken exactly from the natural curvature of the urethra, and be most proper for its introduction into the bladder; that curvature, I should imagine, would be most suitable for the catheter also. This instrument, however, is, in general, curved very differently from sounds; and the catheter, recommended by the author himself, a representation of which is given in plate 15, vol. ii. is curved quite differently from his sounds, represented in plate 12, of the same volume. The curvature of the staff, for directing the gorget into the bladder, in lithotomy, is required to be large; and, perhaps, larger than that of the other instruments I have mentioned, in order that it may prove a more certain guide, in conducting the knife through the integuments in perinæo. But this is a use to which neither sounds nor catheters are applicable; and therefore, unless the largeness of the curvature renders the introduction of these instru-

* See Bell's System of Surgery, Vol. II. p. 34.

ments into the bladder more easy, it does not appear requisite in either of them.

It may probably be urged, that the sound requires a considerable curvature, in order that a large portion of it may be introduced into the bladder; and thus, in searching, when the stone is small, the chance of striking on it may be greater, than when the curvature is less. But I am very doubtful, whether a larger portion of the sound can be introduced when its curvature is great, than when it is small; and, besides this, the stone naturally falls to the bottom of the bladder, and this is a part of it which may be reached without any extraordinary curvature of the instrument. Besides which, the apex or inner termination of the sound admits of a considerable motion, by raising or depressing its handle; and therefore it may, by this method, in most cases, be carried into contact with any body that is lodged in the bladder.

It is, however, necessary for me to add, that as the curvature of the sound is sometimes too large, that of the catheter, on the contrary, is

of ten made much too small; and I have several times been disappointed in the attempt to introduce such an instrument, when I have afterwards succeeded with a catheter, whose curvature was larger.

The translator of Mons. Le Dran's Treatise on the Operations of Surgery, observes, page 219, "that the curvature of the catheter should be proportionable to the make of the patient; and that this may be guessed at sight." I am at a loss to understand the meaning of this sentence, if any thing more is intended by it, than that the curvature of the catheter should be varied according to the size of the person on whom it is to be used. And this appears to have been the meaning of Le Dran himself, since the original words, "*grandeur du malade*,"* may, I think, more properly be translated, "size of the patient," than "make of the patient." The curvature of the urethra, in persons whose size is similar, is, in general, I believe, nearly alike; and when the size

* *Traité des Operations de Chirurgie*, par H. F. le Dran, p. 288.

varies, as in the case of a boy and a man, I am disposed to think, though the several parts are larger in the latter than in the former, that the curvature is still similar. Heister seems to have been of this opinion, and, in plate 27, he gives a representation of a number of catheters differing in length and thickness; but in all of these the same curvature is preserved in proportion to their respective lengths.

Some surgeons have shaped their sounds according to the shape of the large curvature of the urethra; but this does not seem to furnish a certain rule for the construction either of sounds or catheters; since the difficulty that occurs in introducing them does not arise from the want of such conformity, but from the opposition these instruments meet, when their apex, or inner termination, reaches the end of this curvature, and has to pass a small curvature of the urethra, which lies under the symphysis pubis, at the entrance into the bladder.

Le Dran observes, that the size of the catheter should be suited to the size of the urethra; and that this is to be determined by
the

the size of the orifice in the glans penis.* I have, however, often found the orifice of the urethra in the glans penis much contracted; and yet the urethra, in its whole length afterwards, has been of its full natural size. Le Dran adds a remark, which I believe is universally admitted to be just, “that a pretty large catheter always passes better than a small one.”

As to the length of the catheter, these instruments are generally made much shorter than sounds. In the latter, indeed, the additional length affords a considerable advantage to the surgeon, enabling him to move it about in the bladder, in search of a stone, with much more ease than he could do, if it were shorter. But the necessity is not the same, in the use of the catheter. Notwithstanding which, if the length of that instrument were increased to about twelve inches, according to the representation of it on the plate annexed, which is more than an inch above the ordinary length,

* *Traité des Operations de Chirurgie*, par H. F. le Dran, p. 288.

I believe the facility of using it, would often be in no small degree increased.

The figure, just referred to, is taken from an instrument which I have long made use of myself; and have found it so often to succeed, where others of a different size and curvature have failed, that I beg leave to recommend it to the notice of this society.

With regard to the posture of the patient during the operation, I have performed it at different times when this has been much varied. I have generally found it most convenient for the patient to stand, with his back against the wainscot of the room, and the surgeon to be seated before him. If, however, the patient be very infirm, the operation may be performed either in a sitting or more reclined posture, whichever he shall find to be most commodious and easy to himself.

The mode in which I pass the instrument, is as follows:

Being first thoroughly oiled, I introduce it into the urethra, with its convex part uppermost, and carry it as far as it will pass, without
using

using force. It is the practice of some surgeons, in doing this, to draw the penis forwards over the catheter; and Mons. Le Dran observes,* “that the great art in searching,” and I presume he must mean, there is the same art in drawing off the urine, “is to keep
“up a kind of intelligence between the hand
“that supports the penis, and the other which
“directs the instrument.” He adds, “that
“they ought to act so in concert, that, alter-
“nately, the catheter may be thrust into the
“penis, and the penis drawn forwards upon
“the catheter.” In this method, I have repeatedly attempted to introduce the catheter; but, notwithstanding all the care I could use, my attempts have, in general, been without success; and I have observed, in various instances, that the attempts of others, in the same way, have been equally unsuccessful. I do not mean, however, by this remark, to convey a doubt of Le Dran’s success, according to the method he has described; but since I, and others, have not been so fortunate, as to meet

* *Traité par le Dran, p. 290.*

with similar success, I hope I shall stand excused, if I propose a method somewhat different, and which, in my practice, has been more successful. I therefore add, that in a great number of instances, I have scarcely once found it necessary to touch the penis, after the apex of the catheter has been introduced into the urethra: nor will this, I think, appear improbable, when it is considered, that the anterior portion of the urethra, is the only part which can essentially be affected by drawing the penis forward; and this affords no obstacle to the passage of the instrument, unless there be a stricture in it. The posterior part of the urethra, through which, alone, it is difficult to pass the instrument, can neither be straitened nor smoothed by this part of the process. But, besides the objection I have now mentioned to the practice of drawing the penis forward, I shall presently have occasion to observe, further, that the confinement of the catheter, necessarily occasioned by it, is not only unnecessary, but, in a subsequent part of the operation, may also prove injurious.

When

When the catheter has proceeded as far as it will pass, without using force, I turn it slowly round, so as to bring its concave side uppermost; and, in doing this, I make a large sweep with the handle of the instrument, and at the same time, keep my attention steadily fixed on its apex, or inner termination; which I take particular care, neither to retract, nor to move from its first line of direction.

In this part of the operation, as well as the former, I differ considerably, both from the directions and practice of many eminent surgeons. Mr. Bromfield,* in particular, directs, when the apex of the sound meets with resistance in perinæo, that it be turned round, not *slowly*, as I have directed, but *suddenly*; and, though I do not find the same direction so expressly given by other writers, yet this is the mode I have generally seen pursued by surgeons. Sometimes, when the operators have been experienced men, like the gentleman above-mentioned, it has, without doubt, suc-

* See Bromfield's Chirurgical Observations, Vol. II. p. 200.

ceeded in this way, but in general, and especially when the surgeon has been inexperienced, the operation has failed; and, even with the finger in the rectum, it has not always been rendered successful.

When, again, the apex of the catheter reaches the neck of the bladder, if it do not easily pass in on depressing the handle, Mr. Sharp* recommends to withdraw it a quarter of an inch, and then to introduce the finger into the rectum to raise it; by which method he says it will seldom fail to enter. For my own part, except in those cases where the prostate gland has been enlarged, I have rarely had occasion to introduce my finger into the rectum, in performing this operation; and in the direction above given for introducing the instrument, I have mentioned, particularly, that its inner termination should not be permitted to retract, when it reaches the arch of the Os Pubis. I beg to dwell upon this circumstance, believing it to be essential to the

* See Sharp's Treatise on the Operations of Surgery, n. 81.

easy introduction of the instrument. On the contrary, whenever I have been inattentive to it, and have allowed the catheter to fall back, I have always been under the necessity of entirely withdrawing it.

But the part of the operation of introducing the catheter, on which, I believe, its success chiefly depends, is the preservation of the apex of the instrument, at the time of turning its concave side uppermost, in the right direction of the urethra ; so that it may not then press against the sides of this canal. In order to make my meaning better understood, I will suppose a person to press the apex of a catheter, with its convex side uppermost, against his finger, or any other resisting body. If he turn the instrument suddenly round, so as to bring its concave side uppermost, he will find, unless he use great care, that its apex will be moved from its place, and take a new direction, different from that which it followed before he made the turn. A similar effect takes place when the instrument is in the urethra ; and if in that case, on the turn of the instrument,

its

its apex, instead of pressing straight forward in the urethra, should take its direction against the sides of the canal, no additional pressure, afterwards, can make it advance. For this reason, instead of turning the instrument suddenly, in the way recommended by Mr. Bromfield, I always make the turn slowly, and give the handle of the catheter a large sweep round; and this large sweep of the handle is accomplished much more readily when the instrument is unconfined, than it can be when the penis is drawn forwards over it, in the way recommended by Mons. Le Dran.

When the catheter is turned, it must still be pressed onward, and its handle at the same time be gently depressed. By this method it will be made to enter the bladder, and upon removing the style, the urine of course will be discharged through it.

I scarcely need mention, that previous to the use of a catheter, a bougie should be introduced. This alone, in many instances, has been sufficient to procure the discharge of the urine. I have also not unfrequently succeeded,
in

in drawing off the urine, with a hollow bougie made of elastic gum. But notwithstanding these successes, cases will still often occur, which the catheter alone can relieve. Every hint, therefore, that may tend to render the introduction of this instrument more easy and certain, will, I flatter myself, be thought not unworthy the attention of this society.

ON THE
TREATMENT
OF
HÆMORRHOIDS.

On the Treatment of Hæmorroids.

BY the term Hæmorroids, or Piles, is generally understood a morbid state of the blood vessels that are situated in the internal surface of the Intestinum Rectum, near the termination of this gut in the aperture of the Anus. They are distinguished by authors into those that are blind and those that are bleeding. When one or more of these vessels are only distended, they are denominated blind or tumified Piles; but when there is an aperture in them through which blood is discharged, they are called open or bleeding Piles. They are also distinguished into those that are external or visible, and those that are internal or concealed; these last, however, being usually visible, after the fæces have been discharged; although in a short time they become concealed, by the contraction of the Rectum within the Sphincter Ani. The blind Piles

are sometimes so soft and thin, as evidently to be formed by distended or varicous blood vessels ; but, more commonly, they appear to be occasioned by a thickening of one or more of the plicæ or folds in the internal membrane of the Rectum ; which folds in this part of the intestine are usually numerous. The bleeding piles are seldom painful ; and the blind piles, when painful, often become easy, as soon as a discharge of blood takes place from them.

The hæmorrhoidal evacuation is generally thought to be produced by an effort of nature to amend the constitution. There are many whose health is never so good as when they have a regular return of this hæmorrhage ; and, on the contrary, serious disorders of different kinds have been observed to come on, when this discharge has been hastily suppressed. Every prudent practitioner, therefore, will proceed with great caution, and will carefully consider the accompanying symptoms before he uses means either to stop or check it. Various circumstances, however, may arise, which render a medical interference indispensably necessary ;

sary; and, among these, two of the most important, and those to which I mean particularly to direct the attention of the reader at this time, are the extreme pain and irritation, which hæmorrhoidal tumours occasionally excite, and the inability they produce, in the persons who are troubled with them, to prosecute in a proper manner, the usual concerns of life.

A costive state of the bowels, and the difficulties that attend the expulsion of indurated fæces, are among the most common causes of hæmorrhoids. A compression on the blood vessels of the Abdomen, by tumours within this cavity, as by the gravid uterus, by the enlargement of the liver or of any of the other viscera, or by the accumulation of water within the peritonæal tunic, is another not unfrequent cause of this disorder. When hæmorrhoids are occasioned by the gravid uterus, they are usually cured by the delivery of the child; and when the Ascites produces them, the remedy consists in the discharge of the contained water;—but it rarely happens that they admit

of a cure so long as abdominal tumors of any kind continue to impede the free course of the circulation. Gently laxative medicines, and an horizontal position of the body, will do some service in alleviating the uneasiness they occasion. The application of an ointment, composed of equal parts of the powder of oak galls and of elder ointment or hog's-lard, has also contributed to answer a similar purpose. The application, again, of hot water to the affected part, by means of a bidet or semicupium, though at first sight it may seem a remedy of a nature contrary to that of the ointment of galls, has occasionally afforded much ease, by taking off the tension of the tumified gut; and occasionally it has excited a discharge of blood from the distended vessels. To effect a similar purpose, leeches have sometimes been applied on the verge of the Anus; and, at other times, the dilated hæmorrhoidal vessels have been punctured with a common lancet. The former of these operations has in some instances afforded relief; but the hæmorrhage which the latter occasions is, in general,

general, inconsiderable; and, as far as my observation extends, it has very rarely alleviated the pain of the patient.

When the remedies that have been mentioned have been tried without success,—when the patient is disabled from pursuing his usual occupation,—and the pain which the hæmorrhoids occasion is both violent in degree and frequent in returning,—it becomes indispensably necessary to have recourse to other means of affording assistance; and the only ones I recollect, that have been proposed by authors since the use of the cautery and caustics has been relinquished, are—the operations of extirpating the whole of them;—either by cutting them off with a scalpel or scissars,—or by tying a tight ligature round their basis, in order to deprive them of nourishment, and thus to cause them to die and fall off. These operations, though less dreadful than those that are relinquished, are still formidable in no small degree. The former, if the tumors are large, makes a wound of considerable extent, and risks a hæmorrhage, which has sometimes
been

been very difficult to suppress; and the latter brings on a severe pain, which has continued many days, before the portions that are included within the ligatures have separated and come away.

Before a recourse is had to either of these operations, it may be of use to recollect, that though the number of hæmorrhoidal tumors protruded through the anus is often considerable, yet the pain which the patient suffers is not produced equally by all of these. If an accurate inquiry be made, I believe, it will be found that the patient will point to one, or at most to two, of the tumors, from whence all his pain proceeds. When these are examined, it will be discovered that they are much harder and more inflamed than the rest; and generally they are also smaller and less prominent; protruding but just low enough to be compressed by the sphyncter ani.

If this be a just description of the state of the disorder, it follows, that the operations I have mentioned, as being in common use for its cure, when more easy means have failed of
effecting

effecting it, viz. that of cutting off the whole number of hæmorrhoids with a scalpel or scissors, and that of tying a ligature round them, in order to cause them to die and fall off, are both alike unnecessary. Instead of having recourse to these severe remedies, we have only to direct our attention to the hard inflamed tumor, which is the cause of the pain, and which is not unfrequently situated in the center of the rest. This is often no larger than the end of the little finger, and the removal of it, almost instantly abates the pain, and, in a short time, causes the rest of the tumors to collapse and disappear. The mode in which I have performed the operation in a great variety of cases, with perfect success, is simply this. Having secured the little hard tumor, which, as above-mentioned, is often situated near the center of the rest, and much darker coloured than they are, with a common dissecting hook, or forceps, I snip it off as close to its basis as possible, with a sharp pair of curved scissors. The pain which the operation occasions is really trifling; and the hæmorrhage which follows

lows is so slight, that I have rarely had occasion to use any application to check it. If the hæmorrhoids be constantly protruded, the operation may be performed at any time; but if they only appear after the fæces are voided, that opportunity must be chosen for this purpose.

In those cases where the pain produced by hæmorrhoids has not been violent, but where there is a constant distressing uneasiness, with frequent returns of a profuse hæmorrhage, (which hæmorrhage sometimes debilitates the patient to so great a degree that his strength is nearly exhausted) an operation similar to that I have described will not unfrequently be sufficient, in an easy manner, to effect a radical cure of the disorder. In cases of this description, as well as in those before-mentioned, a careful inquiry will often discover, that one, or at most two of the hæmorrhoids are alone productive of these effects, and alone require to be removed; the excitement and protrusion of the rest being merely the effect of the irritability which these occasion.

The

The procidentia ani which accompanies hæmorrhoids usually ceases as soon as this disorder is cured. It sometimes takes place also from mere weakness in the intestinum rectum. Those who are old are particularly subject to this procidentia; but it happens occasionally to persons of all ages. A very large portion of the rectum is sometimes protruded in infants; and if it be suffered to remain long in this unnatural position, it is liable to become much inflamed, and even gangrenous. When a surgeon is called to a case of this kind, no time should be lost, but the gut be returned to its proper position, as soon as possible, by the gentle and gradual pressure of the fingers; after which a thick compress, so graduated in size as to adapt itself to the space between the nates, and steeped either in red wine, or in some astringent lotion, should be bound on the part with a T bandage, to hinder the gut from again protruding. When a bandage has been applied for the above purpose, the patient should be gentle in all his movements; since a sudden change of posture is apt to vary the degree

degree of pressure that the bandage makes, and to allow the bowel again to protrude; in which case the pressure of the bandage on the tender gut has been found to do harm rather than service. In some instances of the procidentia ani, the patients have been served by introducing into the rectum, morning and evening, a tent about two inches long, and as thick as the little finger, made of a candle or of some stiff cerate. So long as a tent of this kind preserves its consistency, it compresses the sides of the gut and hinders it from coming down; but when it is melted by the heat of the part it loses its efficacy; and therefore the application of the compress and bandage above-described is necessary, at the same time that the tent is used, in order to assist its action. The internal administration of the medicine known by the name of Ward's Paste has also in some instances of procidentia been found useful to strengthen the debilitated bowel. This medicine is said to be composed of the following ingredients:

R. Pulv.

R. Pulv. Piperis Nigri.

Radiciſ Enulæ Campanæ ſing. ʒj.

Seminum Fæniculi dulciſ ʒiij.

Bene miſceantur ; tunc adde

Melliſ deſpumati.

Sacchari purificati ſing. ʒij.

Liquefiat mel cum ſaccharo, et bene miſceantur cum pulveribus, in mortareo marmoreo, ut fiat maſſa. Capiat æger magnitudinem nuciſ moſchatae biſ vel ter quotidie.

If the procidentia has been of long continuance it muſt be confeſſed, after all, that none of theſe means can be depended upon, as affording a certain ſecurity againſt the return of the diſorder, not only after a coſtive ſtool, but on any quick or ſudden motion of the body. In all theſe caſes, it is the duty of the ſurgeon very accurately to examine the ſtate of the protruded part ; ſince, in ſome it has been found that a ſmall portion of the gut has been evidently more tumified than the reſt, and more tender when touched with the finger ; the removal of which tumified part, in the way I have recommended common hæmorrhoids
to

to be removed in the preceding pages, has occasioned the remainder to collapse, and the patient to become quite well.

Former authors, and particularly Mr. Benjamin Bell, of Edinburgh, seem to leave it, as a matter of indifference, whether hæmorrhoids be cut off or tied off. The violent pain which the operation of tying them occasions, and the continuance of this pain for two or three days together, are objections to the use of the ligature, which, in my own mind, I have never been able to overcome. At the same time the danger that is liable to arise from a profuse hæmorrhage, after cutting off so large a number of hæmorrhoids, as often protrudes in this disorder, is with many an objection of no small weight against the old mode of excision; although I believe this hæmorrhage may always be hindered from becoming seriously troublesome, if a due attention be paid to keep the patient cool, and to avoid hot liquors for the first day or two after the operation has been performed. I think, however, it must be admitted by every one, that, whether the danger
be

be greater or smaller, it is considerably diminished by the alteration in the mode of operating which I have taken the liberty to suggest in the preceding pages.

After the operation, a thick compress should be applied, wet either with cold brandy and water, or with a cold saturnine lotion; retaining it on the part with the usual T bandage. The patient should be directed to keep perfectly still; to lie rather cooler than usual in bed; and to take nothing, in the way of diet, that is either hot or strong. I remember only two instances, in a considerable number of this kind, in which further attentions were found necessary. In neither of these did any ill consequences follow, except the alarm from an hæmorrhage, which was quickly suppressed: and the history of one of them is given in the sixth case that will be found annexed to these remarks.*

* It may be of use to observe, that after the cure is completed, it is a salutary practice to wash the weakened part daily with cold water, by means either of a bidet or large sponge.

C A S E S.

CASE I.

A gentleman in Birchin-lane applied to me, about three years ago, on account of an hæ-morrhoidal disorder to which he had been subject many years. For the last twelve months several large tumors were protruded through the sphyncter ani whenever he had a stool, and afterwards they not only bled, but he was often for hours in so much pain, that he was unable to attend to any business. Many medicines had been given him, and different applications employed, but without affording him any assistance. On an examination I found a considerable number of hæ-morrhoids protruded through the anus, all of which appeared to be in a state of inflammation; but one in particular was excessively tender, and felt quite hard when touched with the

the

the finger.* I stated to the patient my opinion, that this hard pile was the cause of the pain he endured, and that the removal of it was a highly probable means of giving him ease, and causing the other tumors to collapse. On the subsequent day I performed the operation in the following manner. Having secured the hard hæmorrhoid with a dissecting hook, and drawing it forward, I cut it off, with a curved pair of scissars, as close to its basis as I was able. The remainder of the tumors instantly collapsed, and withdrew within the sphincter; and, as they were quite soft, I did not think it necessary to search further for them. The pain the operation occasioned was much less than the patient had experienced for a long time after every motion. No hæmorrhage followed. I applied a compress dipped in a

* It has been observed above, that hæmorrhoidal tumors are not unfrequently occasioned by a thickening of one or more of the plicæ or folds in the membrane which lines the inferior part of the intestinum rectum. I have reason to believe that this is much more frequently the cause of these tumors, than a varicous enlargement of any large blood vessel that is situated in this part.

saturnine lotion over the anus, and bound it on with the usual T bandage. An uneasy sensation was experienced in the rectum during the whole of the first day, but the patient slept well in the night, and the following day was perfectly easy. On the third day he took a gently opening medicine, which procured him two loose motions. These were mixed with a small quantity of blood; but gave him very little pain as they came away, and were followed with a very slight protrusion of the gut, which went back, immediately on the application of the finger. He had not any occasion to take medicines afterwards. The bowels in a short time performed their proper office without pain or protrusion, and he became quite well in every respect. For a year and a half he continued free from any uneasiness of the hæmorrhoidal kind; but then the gut began to have a slight tendency to protrude whenever he had a costive stool. He took particular care to avoid this by an attention to his diet, and by the use of gently purgative medicines. As this, however, did not hinder
the

the gut from occasionally coming down, he was advised to take the size of a nutmeg of Ward's Paste every morning and evening. He had not taken this medicine long before the tendency to a prolapsus ani entirely went off, and for the last two years he has not had the least uneasiness in this part.

CASE II.

Mr. B., a wine-merchant in the city, applied to Mr. Wathen and me, during the time we were connected together in practice, on account of a considerable number of hæmorrhoids which had been troublesome to him many years; and, for some months prior to the time of his consulting us, had been often so excessively painful, that, for hours after voiding his fæces, he was unable to move either from his bed or couch. On an examination I found that the tumors were very similar to those that are described in the preceding case. A considerable number of them was protruded through

the sphyncter ani ; and, nearly in the center of these was one, much smaller than the rest, which was excessively hard and painful, and very livid in colour. Having secured this hard tumor with a dissecting hook, we immediately removed it with a curved pair of scissars. No hæmorrhage followed the operation ; and he became almost instantly easy. Nothing particular occurred in the subsequent treatment ; and, from that period to the time of my drawing up this statement of his case, which is upwards of ten years, he has not had the smallest tendency to a return of the disorder.

CASE III.

Mr. D., a merchant in the city, about 40 years of age, has been troubled with hæmorrhoids ever since he was seven years old ; scarcely ever having had a stool, since this time, without the protrusion of one or more of them, which he afterwards was obliged to return through the sphyncter ani by the pressure

sure of his fingers. They gave him, however, no further trouble till about three years ago, when, without any known cause, he was unable to keep them up, and they became so painful that he could not walk without difficulty; and in a short time the pain increased to so great a degree, that he could neither sleep nor continue long together in any one posture. In this state he sent for me. The case exactly resembled those which I have above related. In the midst of a large number of hæmorrhoids, there was one much harder and darker coloured than the rest, and excessively tender when touched with the finger. I gave him my opinion that the whole of the pain proceeded from this hard hæmorrhoid; and therefore advised him to have it removed. His consent was immediately given; and I cut it off, together with a small hæmorrhoid near it, which seemed somewhat harder than the rest, the same evening. The operation gave him very little pain, and was not followed by any hæmorrhage. He became easy almost as soon as it was performed, and afterwards passed a very

good night. No hæmorrhage took place, nor did any accident follow ; and in a few days he was well enough to return to his usual business. There is, however, still, as there has been from his youth, a protrusion of part of the gut whenever he has a stool ; but this he returns with great facility ; and, as it gives him no further trouble, he is not uneasy about it.

CASE IV.

Mr. B. applied to me, about twelve years ago, on account of an excruciating pain, produced by hæmorrhoids, which had then continued a week with scarcely any intermissions. On an examination I found, as in the preceding cases, in the midst of several hæmorrhoids, one much harder than the rest ; which though small was nearly black. I desired him to strain, that this black pile might become more visible through the sphincter ani ; when touching it with the end of my finger, he immediately exclaimed that this was the part from whence his
pain

pain proceeded. Previous to the present attack the patient had never been subject to any complaint of a similar kind, but had enjoyed in all respects a good share of health. I immediately removed the hard pile in the way above-recommended; after which the pain very quickly abated. No hæmorrhage ensued, nor were any other dressings employed than the usual compress and bandage. Within a fortnight he was perfectly cured, and returned to his business. He did not experience any further trouble from the disorder till about twelve months ago; when he was again attacked with an agonizing pain similar to that he had before experienced; and a hard tender tumor was again protruded through the sphincter ani together with a number of others of a softer nature. He was now at a considerable distance from me; in consequence of which I had not an opportunity of attending him. The gentleman he consulted recommended a free use of sulphureous medicines externally, and the application of various softening ointments to the protruded tumors; but a month had nearly elapsed before

before he experienced any lasting amendment from them. The pain then gradually went off, and the hard tumor disappeared ; since which time he has again enjoyed his usual health.

In this instance does it not seem probable that the removal of the hard hæmorrhoid would have prevented the patient a great part of the pain he endured, and have much shortened the time of his confinement from business ?

CASE V.

A lady who has borne many children, applied to me about three months ago, on account of a protrusion of hæmorrhoids through the sphincter ani, which occasioned her a continual uneasiness in this part. The disorder commenced about three years ago, and was supposed to have been brought on by some active medicines which she took about that period. For a long time the hæmorrhoids had been accustomed to bleed whenever she had a
costive

costive stool ; and for a month before she consulted me, not a day elapsed, in which she had not lost six or eight ounces of blood in this way ; notwithstanding which, there was very little diminution in her usual menstrual discharge. In consequence of the pain and loss of blood she was exceedingly reduced both in strength and size, and had entirely lost her inclination for food. On an examination I found, as is above described, a considerable number of hæmorrhoids protruded through the sphincter ani ; two of which appeared more prominent than the rest ; but they were not more tender, and there did not appear to be any difference in their colour. I stated my opinion to the patient, that the removal of these prominent piles would be a likely means of causing the remainder to collapse, and of restraining the hæmorrhage which had so repeatedly returned, and so greatly weakened her. The next day I performed the operation. Having secured the tumors with a common hook, I cut them off with a curved pair of scissars, as close to their basis as I was able.

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The hæmorrhage that followed was really trifling, and the gut immediately retracted within the sphincter. A thick compress dipped in cold brandy and water was immediately applied, and the patient was directed to lie cool in bed, and to avoid hot drinks of every kind. She continued perfectly easy until the evening of the following day, when, having an inclination for a stool she voided a considerable quantity of grumous blood without any mixture of fæces. The nurse who attended her was so much alarmed by its appearance, that she wished to send immediately for me; but the patient would not permit it, assuring her that for many days previous to the operation she had voided as large a quantity of blood that was quite pure. The next morning she took a table spoonful of castor oil, which procured her two loose stools, without the least mixture of blood, or the smallest protrusion of the intestine. The precaution I at first gave her to avoid hot drinks, and to lie cool in the bed was still strictly regarded. She had a stool every day afterwards without the need of any medicine
to

to procure it; and at the end of a fortnight every symptom of the disorder was perfectly removed.

CASE VI.

Mrs. H., about four years ago, had occasion to take a purgative medicine, which unexpectedly operated with great violence. In consequence of this, whenever she had a stool afterwards, a part of the internal membrane of the rectum was protruded through the sphincter ani, requiring the application of the fingers to return it to its proper position; and in a short time the gut became so weak, that it came down whenever she walked the distance of a hundred yards. She was also troubled not unfrequently with a considerable hæmorrhage from this part, which sometimes came on suddenly, and occasioned her great distress. Many remedies, both external and internal, had been made use of, but without affording her any relief. I at first suspected that this was one of the common cases of hæmorrhoids; and, as
the

the patient was constitutionally costive, I directed her to take the size of a nutmeg of an electuary composed of sulphur and cream of tartar mixed with lenitive electuary, once or twice every day, according as the state of her bowels made it necessary. An ointment composed of equal parts of the powder of oak galls and elder ointment was also prescribed to be applied, morning and evening, to the protruded gut. These remedies, however, did not produce any good effect. She was then advised to introduce up the gut the end of a small candle, about two inches long, and as thick as the little finger, once or twice every day, in order by its pressure to hinder the protrusion, and, in this way, to give strength to the weakened part. A thick compress at the same time was confined on the anus by a T bandage, which was bound on the part as tight as it could be borne, without giving pain. These applications seemed at first to have a good effect in keeping up the gut; but in a short time, the benefit they afforded ceased, and the introduction of the candle, and wear-
ing

ing the bandage, became a work of so much fatigue, that the patient could not be prevailed on to continue the use of them. I was now permitted to examine the seat of the disease, and I found the posterior and inferior part of the rectum protruded through the sphincter ani, about the size of the first joint of the little finger. There did not appear to be any distinct tumor in this part that could properly be denominated an hæmorrhoid; but the resemblance between the two disorders was so strong, and the distress of the patient so great, that I thought myself fully justified in recommending the excision of the protruded part, in the same way in which I would remove an inflamed hæmorrhoid. The patient giving her consent, I performed the operation on the following day. Having secured the most prominent part of the tumor with a hook, I cut it off in the usual way with a curved pair of scissars. The hæmorrhage that ensued was very inconsiderable; and the gut immediately returned to its proper position. I covered the part with a cold saturnine lotion, and bound it

on

on with a T bandage. About two hours after the operation the patient felt an uneasiness in the rectum as if she should have a stool; and shortly afterwards a large quantity of thick blood was brought away. This much alarmed both the patient and her friends, and occasioned them to send in haste for me; their alarm being increased by a return of the hæmorrhage before I arrived. I immediately applied a dossil of lint dipped in a strong vitriolic lotion to the wound, and repeated the use of a thick compress dipped in a cold saturnine lotion to the external part of the anus. A bolus, containing five grains of dragon's-blood, and an equal quantity of alum, was given every two hours; the weight of the bed clothes was lessened; and hot drinks of every kind were carefully avoided. No hæmorrhage of any consequence took place after this plan was adopted. It was steadily continued for twenty-four hours; the compress being frequently dipped, during this time, in the cold saturnine lotion. The bolusses were afterwards given every four hours for another day. On the
third

third the patient took some castor oil, which brought away a loose stool with a small mixture of blood, but without any protrusion of the gut. She had a slight sense of soreness in the wound for about a month; but then the pain wholly went off; and from that time to the present, which is upwards of three years, she has enjoyed her health perfectly in every respect.

ADDITIONAL CASE
OF THE
OPHTHALMY.

*An Ophthalmia with violent Pain consequent on
a Gutta Serena.*

THE following case having come under my care since the preceding remarks on the Ophthalmia were printed, and the treatment that was employed, being different from any that I have seen recommended by authors on the subject, I flatter myself an account of it, though placed irregularly in this part of the book, will not be unacceptable to the reader.

Mrs. W., about 45 years of age, perceived a dimness in her left eye, for the first time, about two years ago. The cause of it she was not able to assign, but supposed it to have been the
the

the consequence either of taking cold, or of the cessation of a discharge, to which for a considerable time she had been subject, from one of her legs. The dimness was discovered accidentally, on her attempting to see an object with the left eye whilst the right eye was shut, and in a short time the sight afforded by this eye rendered her no assistance; objects, when placed straight before her, being invisible, and their appearance, when removed to the outer side of the axis of vision, being obscure and indistinct. The eye had not altered its appearance in any respect, the pupil being neither cloudy nor dilated. The sight of the right eye, however, continuing perfect, she sustained no other inconvenience from the defective sight of the left, than that of occasionally mistaking the distance of objects. In December 1804, she first began to feel pain in the eye, and at this time it became slightly inflamed. The inflammation never appeared to be considerable, but the pain rapidly increased to a most violent height, affecting in a few days both the eye and the head, and being particularly

particularly severe during the night. The pupil now, for the first time, became dilated, and had a misty appearance; but the degree of opacity was very insufficient to account for the total loss of sight. Leeches, blisters, large fomentations made with poppy-heads, and a free use of opium internally, were repeatedly tried, but did not afford her any relief. The solution of Hydrargyrus Muriatus, in the way recommended page 62 of this volume, was equally ineffectual. The progress of the disorder and the present state of Mrs. W. closely resembled those of the patient, whose case is described page 234, who after having suffered three weeks in a similar manner, suddenly lost the use of his left side; soon after which his speech failed; convulsions followed; and in a short time he died. The death of the patient did not depend in any degree on the loss of his sight; but his death happening at the time his sight was thus affected, it fortunately afforded me an opportunity of examining an eye in such a peculiar state of blindness. In this instance a considerable quantity of a yellow coloured

coloured fluid, as thin as water, was accumulated between the choroid coat and retina, the retina itself being collapsed, and resembling a cone of a white colour, the apex of which was at the entrance of the optic nerve, and its basis surrounding the crystalline humour; the vitreous humour being entirely absorbed. Influenced by a recollection of this case it occurred to me that the violent pain which Mrs W. suffered might not improbably be occasioned by the effusion of a similar fluid between the choroid coat and retina, and by the pressure which, in consequence of the unyielding texture of the sclerotic coat, this fluid would necessarily make on the retina which lay immediately between it and the vitreous humour. It also occurred to me that if the effused fluid could be discharged, it might not improbably be a means of affording the patient relief; and the operation of discharging it did not seem either impracticable or difficult. I stated this opinion to the patient, and she readily acceded to submit to it; as indeed she would have done to any operation, whatever

might have been its hazard, so extreme was the pain she at that time endured. The operation was attended neither with difficulty nor danger. It consisted simply in the introduction of a common spear-pointed couching needle through the tunica sclerotica, a little further back than the part where it is usually introduced for the purpose of depressing a cataract. As soon as the instrument entered the eye, a yellow coloured fluid immediately escaped, sufficient in quantity to wet a common handkerchief quite through. The needle was continued in the eye about a minute, in order to give the fluid a more ready way to come out ; and as soon as it was withdrawn the discharge ceased. The tension of the eye was considerably diminished by the operation. A compress dipped in a saturnine lotion was bound upon it, and the patient put to bed. She continued in pain about ten minutes, but then fell into a sound sleep, which lasted upwards of two hours, and on awaking her eye was quite easy. The compress was again moistened with the saturnine lotion, and she
took

took some nourishment. She passed the next night very comfortably without the assistance of laudanum, although previously it had been given her in large doses. The same application as had before been used was continued to the eye; and from that time to the present, which is nearly two months, the eye has remained perfectly easy, and there is now scarcely any appearance of inflammation. The pupil continues dilated, but is not become opaque, though a change of this last kind sometimes takes place, in cases of the gutta serena, so as to equal the whiteness of a common cataract, after such violent attacks of inflammation. About three weeks after the operation, the patient caught a cold, and complained that the eye felt more tender than usual. I was alarmed by the accident, lest a fluid might again be effused in the old place, and the pain return; but this was happily prevented by the application of a blister on the side of the head.

The case which I have described seems to prove, that though the Gutta Serena may

be occasioned by a variety of causes, most of which are exterior to the eye, it is sometimes produced by the effusion of a watery fluid in the eye itself, between the choroid coat and retina. If the effusion take place slowly, vision is destroyed in a gradual manner, and it does not occasion any great degree of pain ; but if it happen suddenly, the blindness is not only sudden, but it is accompanied, as in the case that I have related, with a violent pain both in the head and eye. The operation that has been described was performed solely with a view to give relief from the excruciating pain which the patient underwent; and this object was completely accomplished by it. How far a similar operation might prove effectual, in an early stage of the disorder, for the purpose of restoring vision, is a question which I am not at present competent to answer. If, however, a patient be deprived of all useful sight without a visible change in the size and figure of the pupil, and if the little that remains be only acquired when objects are viewed sideways,
and

and they are then seen in an imperfect manner, I am inclined to think that the case is fair for the experiment, and that the operation is not unlikely to afford relief. The two following circumstances are much in favour of its being tried. If the eye be uninflamed it gives but a slight degree of pain; and if it be performed by a careful person, it is so void of danger that I am persuaded it would not injure the sight even of a sound eye.

END OF THE FIRST VOLUME.

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VOL. II.

CONTAINS

OBSERVATIONS

ON

THE CATARACT

AND

GUTTA SERENA.

The second Edition, with many Additions.

ERRATA.

Page 70, line 7, dele *often*.

250, 10, for *to* read *of*.

255, 16, for *Nitric* read *Nitrous*.

481, 19, for *of the Rectum* read *of the protruded
part of the Rectum*.

483, 13, for *on* read *of*.

